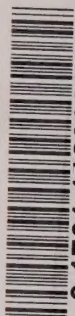
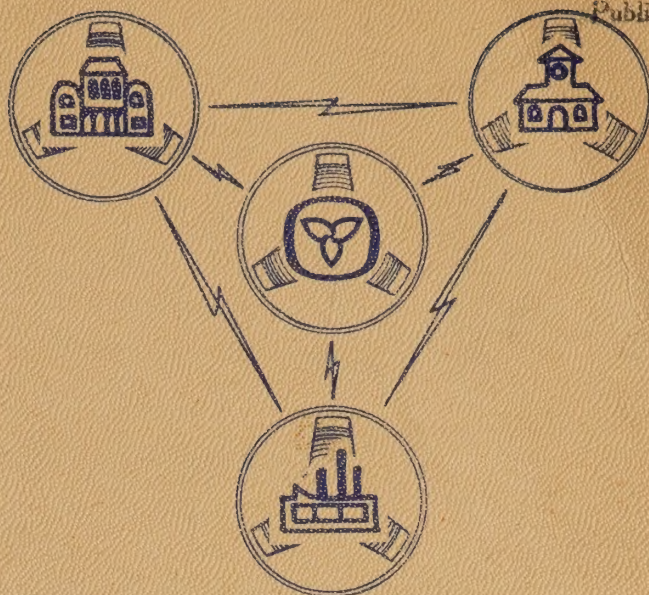


CA2ΦW
ED 900
-66C51



3 1761 11893385 2

Government
Publications



CONFERENCE:

THE CO-ORDINATION OF STATISTICAL ACTIVITIES

FEBRUARY 22, 1966

THE TORONTO AREA RESEARCH CONFERENCE
THE ONTARIO DEPARTMENT OF ECONOMICS AND DEVELOPMENT

Conference

on

"The Co-ordination of Statistical Activities"

Co-sponsored by

The Toronto Area Research Conference

and

The Ontario Department of Economics and Development

The Westbury Hotel

Toronto, Ontario

February 22, 1966

Office of the Chief Economist

The Ontario Department of Economics and Development

950 Yonge Street

Toronto 5, Ontario

C1724N

ED 900

-66C51



FOREWORD

In December 1965, representatives of the Toronto Area Research Conference and members of the Ontario Department of Economics and Development met for the purpose of discussing problems relating to the collection and distribution of statistical information for research and planning purposes. At this meeting, it became clear that the subject was sufficiently important to warrant more detailed consideration and review. As a result, we agreed that a conference should be organized and should include delegates from various sectors of the Metropolitan Toronto area - business, government (municipal and provincial), as well as the universities. The Dominion Bureau of Statistics and the Quebec Bureau of Statistics were also invited to participate.

At the resulting conference on "The Co-ordination of Statistical Activities", representatives from manufacturing industries, utilities, finance, advertising and marketing research, wholesaling and retailing were invited to discuss general statistical problem areas in their respective fields. The meeting also provided delegates from municipal, provincial and federal governments with an opportunity to express their statistical needs and to describe their plans.

In an effort to provide the participants with some kind of direction towards the goal of improved statistical co-ordination, the planners of the conference submitted certain proposals which appear in an appendix to this report. The proposals were primarily designed to help stimulate thought and to provide a framework for discussion rather than to take the form of recommendations.



Digitized by the Internet Archive
in 2024 with funding from
University of Toronto

<https://archive.org/details/31761118933852>

We wish to thank Professor J. Gillies of York University for his stimulating luncheon address at a time when he was heavily involved in other obligations. I should like to add a personal word of appreciation to the Executive of the Toronto Area Research Conference, Dr. K. Cheng and members of the Ontario Statistical Centre, and Mr. N. Fraser of Special Projects and Planning, Department of Economics and Development for their generous assistance in organizing the conference.

H. I. Macdonald
Chief Economist
Ontario Government

October, 1966

ATTENDANCE

Conference on "The Co-ordination of Statistical Activities"

February 22, 1966

The Westbury Hotel

Toronto, Ontario

Mr. H.M. Adamson	Department of Highways
Mr. J.P. Baillargeon	Quebec Bureau of Statistics
Mr. P.F. Barth	Central Mortgage and Housing Corporation
Mr. K.F. Bull	Toronto Star Limited
Mr. T. Buyniak	Civil Service Commission
Mr. W.F.J. Busch	North York Board of Education
Miss B. Byers	Toronto Public Libraries
Mr. J.C. Casey	Department of Energy Resources
Dr. K. Cheng	Department of Economics and Development
Mr. E.B. Churchill	Board of Trade of Metropolitan Toronto
Mr. S.W. Clarkson	Deputy Minister, Department of Economics and Development
Mr. L.A. Cornwall	Department of Economics and Development
Mr. Robert Cournoyer	Canadian Council on Urban and Regional Research
Mr. R.D. Cowley	Metropolitan Toronto and Region Transportation Study
Mr. Ben Cramer	Finance Department, City of Toronto
Mr. R.M. Cumming	Toronto Transit Commission
Dr. A.J. Dakin	University of Toronto
Mr. R.M. Dixon	Department of Lands and Forests
Mr. B.W.H. Elwood	Metropolitan Toronto Planning Board
Mr. S.L. Fairfield	Steinberg's Limited
Mr. A.M. Gartshore	Department of Transport

Prof. J.M. Gillies	York University
Mr. W.H. Godsalve	Department of Municipal Affairs
Miss Naomi Grigg	Ontario Hospital Services Commission
Mr. W.S. Groom	Department of Public Welfare
Mr. L.T. Higgins	Hydro-Electric Power Commission of Ontario
Mr. H.F.C. Humphries	Registrar General's Office
Mr. R.I. Jones	Consumers' Gas Company
Dr. J.A. Keddy	Department of Education
Mr. Cecil Kent	Consumers' Gas Company
Mr. D. Kingsbury	Imperial Oil Limited
Mr. J.R. Kinley	Department of Labour
Mr. P. Klopchic	Department of Tourism & Information
Mr. H.T. Lemon	Metro Toronto Board of Trade
Mrs. M.B. Levitt	Department of Economics and Development
Mr. J.S. Lewis	ARDA
Mr. R.E.T. Long	Bank of Nova Scotia
Mr. H.I. Macdonald	Chief Economist, Department of Economics and Development
Mrs. Ann MacGregor	Department of Municipal Affairs
Mr. J.K. Mann	ARDA
Mr. R.W. McCabe	City of Toronto Planning Board
Mr. H.W. McCallum	Bell Telephone Company
Mr. A. McCredie	United Community Fund of Greater Toronto
Mr. D.C. McKechnie	Metropolitan Toronto and Region Transportation Study
Mr. Neil McKellar	Dominion Bureau of Statistics
Mr. A.G. Metcalfe	Dominion Bureau of Statistics
Mr. E.G. Moogk	Consumers' Gas Company

Mr. I. Nash	Metropolitan Toronto Assessment Board
Mr. G.W. Nuttal	Metropolitan Toronto Planning Board
Mr. J.G. O'Neill	O & M Services - Treasury Board
Mr. D.M. Paterson	Murray V. Jones & Associates
Dr. H.L. Patterson	Department of Agriculture
Mr. W. Preston	Hydro-Electric Power Commission of Ontario
Mr. D.M. Ray	ARDA
Mr. R. Reiman	O & M Services - Treasury Board
Mr. G.S. Riddell	Department of Mines
Dr. F. Gerald Ridge	Metropolitan Toronto School Board
Prof. Stephen Rodd	University of Guelph
Mr. L.E. Rowebottom	Dominion Bureau of Statistics
Mrs. Eva Sammery	Toronto Planning Board
Mr. E.V. Sanders	Ontario Water Resources Commission
Dr. A.H. Sellers	Department of Health
Mr. K.Y. Shen	Department of Highways
Mr. O.M. Schnick	Department of Economics and Development
Mr. M.H. Sinclair	Department of Municipal Affairs
Mr. L.V. Skof	Hydro-Electric Power Commission of Ontario
Miss Joan G. Sloman	Department of Health
Mr. W.J. Smithson	Department of Treasury
Dr. B. Sotnyk	Department of Highways
Mr. C.T. Spindloe	Department of Prov. Secretary & Citizenship
Mr. D.W. Stevenson	Department of Economics and Development
Mr. G.Z. Szabo	Department of Economics and Development
Prof. D.V. Verney	York University
Mr. P.E. Wade	Metropolitan Toronto and Region Transportation Study

Miss N. Walton	Canadian Imperial Bank of Commerce
Mr. C.R. Webster	British American Oil Company Limited
Mr. W.A. Willson	Metro Toronto Industrial Commission

Table of Contents

	Page
Foreword.....	(iii)
Attendance List.....	(v)
Address by Mr. H.I. Macdonald Chief Economist Ontario Government.....	1
Address by Mr. E.G. Moogk Chairman Toronto Area Research Conference.....	6
The Ontario Statistical Centre.....	11
Dr. K. Cheng Director.....	11
The Role of Dominion Bureau of Statistics.....	27
Mr. L.E. Rowebottom Assistant Dominion Statistician Dominion Bureau of Statistics.....	27
Statistics - Illustrative Problem Areas	
Manufacturing Industries.....	36
Mr. E.D. Kingsbury Manager, Systems and Computer Service Department Imperial Oil Limited.....	36
Utilities.....	43
Mr. H.W. McCallum Commercial Supervisor, Development The Bell Telephone Company of Canada.....	43
Finance.....	47
Mr. R.E.T. Long Assistant Supervisor, Economics The Bank of Nova Scotia.....	47
Advertising and Marketing.....	53
Mr. K.F. Bull Marketing Research Manager Toronto Star Limited.....	53

	Page
Wholesaling and Retailing.....	58
Mr. S.L. Fairfield Real Estate Research Manager Ontario Division Steinberg's Limited.....	58
Requirements for Co-ordination of Statistical Activities.....	61
Mr. B.W.H. Elwood Director Research Division Metropolitan Toronto Planning Board.....	61
Luncheon Address.....	70
Professor J.M. Gillies Dean, Faculty of Administrative Studies York University.....	70
Summary of Discussion.....	78
Closing Remarks - Mr. E.G. Moogk.....	85
Appendix.....	87
Agenda.....	88
Proposals.....	89

MR. H.I. MACDONALD
Chief Economist
Ontario Department of Economics and Development

As you know from scanning the programme, we have a lengthy agenda of speakers and commentators and each of them will be introduced from the platform in turn. May I, however, introduce myself and welcome you to the proceedings this morning. I think that I already know many of those who are here present, but, for the benefit of those whom I hope to meet in the balance of the day, my name is Ian Macdonald.

Our Conference has an elaborate title and, although coordination is a faculty that probably eludes many of us at this stage in the morning, I believe we are embarked here on a vital and timely exercise. Statistics have come to be both a bane and a blessing - a bane in the sense that it is rather difficult to win an argument any longer on the basis of pure logic alone, and a blessing in the sense that we are now able to know so much more about ourselves. Yet, statistics is persistently exposed to frequent, good-humoured attention. Let me illustrate. A few years ago, I sat on a panel with Charlotte Whitton among others. The arguments were flying hot and heavy, and I was using statistics rather generously to support my case. Finally, Miss Whitton turned to me and said: 'Young man, there's one thing I want to say to

you about this; you know that between us, Madame Dionne, the mother of the quintuplets and others, and I - between us we have sixteen children, but that doesn't make me a mother of eight'. I think that we have all had abundant illustrations and examples of the limitations of statistics, but nevertheless, I think that what we have set about here is of considerable social importance.

The meeting today has a brief, but interesting, past and I thought I might say a few words about it both in explanation of what is to follow and as a warning to those who might emulate my own enthusiasm in similar circumstances. Last June 24th, I had the privilege of addressing the Toronto Area Research Conference and describing some of our own plans in the Ontario Government for the newly-created Office of the Chief Economist. I described the beginnings of new activities for overall and regional economic planning, for interdepartmental co-ordination of economic research and policy planning, for more advanced economic analysis and, above all, for the development of an Ontario Statistical Centre, to be, as it were, the heartbeat of our new body.

At that time, I suggested that we were clearly forging ahead on two fronts - economic research and statistical analysis - and should we not be thinking, not only of co-ordination in the Government, but of the widest possible degree of co-ordination with other levels of government and with the

interested parties in the private sector? Surely then, the time to anticipate problems and exploit opportunities was at the time of inception of this new scheme. And here comes my warning to the enthusiastic! As a result of this suggestion in June, I had a visit last autumn from Mr. Moogk and members of the Toronto Area Research Conference executive on what was, I suppose, a bluff-calling expedition, so to speak. By process of noblesse oblige, here we are today and it is certainly satisfying indeed to know of your own interest in this Conference.

I mentioned that we have embarked, in the Department of Economics and Development, on the process of creating a new operation - the Office of the Chief Economist - to provide a Government-wide economic and statistical service. We are presently staffing and implementing this new arrangement which, basically, consists of six branches or units. At the centre is an Economic Planning Branch to assist us in studying where the provincial economy is going and where the Provincial Government stands in relation to the economy. We have underway a Federal-Provincial Affairs Secretariat to examine, from a broad point of view, the federal-provincial scene and to provide for research, background intelligence and policy assistance in the taxing areas of Federal-Provincial relations. We will have an Economic Analysis Branch to look at the technical aspects of micro and macro economics as they affect the provincial economy.

We will have an Applied Economics Branch to consider areas of specific investigation and, in particular, industry studies, market analysis and resource studies. There is, in addition, the Regional Development Branch concerned with research into the problems of regional development across the province. Finally, we have the Ontario Statistical Centre which is the key figure for today.

Dr.Cheng will be describing the work and the aspirations of the Ontario Statistical Centre in greater detail, but let me just say a few more words about the scope of today's meeting. The Ontario Statistical Centre will, in a sense, be the offspring of the marriage of computer technology and information science. It will produce statistics, it will draw statistics in from administrative departments, and it will equip us to undertake, for example, input-output studies of the provincial economy. We wish to complement, on the provincial front, the important role that is being played by the Dominion Bureau of Statistics.

Today, I suppose we are seeking the answers to questions posed in two areas:

- (1) As we begin, how can we shape our programme to be of the widest possible service to the public and private sectors together?
- (2) What means of co-ordination, in the sense of organizing data collection systems, assuring common

coding and classification, and improving facilities for storing and retrieving information for various sources can be devised?

Now, you may well feel that we are trying to sprint before we have even started to crawl. However, I return to my earlier point that we would like, at least, to know what we are crawling towards, and to avoid wasteful mistakes. The time for good planning is at the beginning, not at the end.

Now it is my great pleasure to introduce the Chairman of the Toronto Area Research Conference, a man who has a wide background of experience and accomplishment and is presently the Assistant to the Vice-President and The General Sales Manager of the Consumers' Gas Company. But, in this meeting today, it is his association with the Toronto Area Research Conference, as Chairman, which is of greatest interest to us. I cannot let this opportunity pass without saying how indebted I am to him for his ready co-operation and generous assistance in arranging the meeting today. You, who know him well, know that he is as patient as he is generous and these references to generosity are not intended to have any necessary connection to the reception which will be given by the Consumers' Gas Company at 4:30 this afternoon. It is my pleasure now to introduce Mr. Moogk.

MR. E. G. MOOGK,
Chairman,
Toronto Area Research Conference.

I am grateful to Mr. Macdonald for his kind reference to myself and I would like to add a word of warm welcome on behalf of the Toronto Area Research Conference. I would like also to say that he was very modest in his references to himself. I'm sure a great many here have heard something of Mr. Macdonald and his very interesting academic career which has been succeeded by a key position in the provincial government services. We in the Area Research Conference were fortunate to have him as a speaker at our last Annual Meeting, at which time he initiated the idea of some form of collaboration between the Area Research Conference and the Department of Economics and Development of the Provincial Government. I am pleased that our collaboration has resulted in this meeting today. Although a large number of those present are members of the Area Research Conference and know what it represents, there may be some who are wondering what the Toronto Area Research Conference is. The Conference was organized six years ago, on suggestions originating from the Toronto Board of Trade and the reasons are similar to those which bring us together today. Quoting from the By-law, "the objectives for the Toronto Area Research Conference shall be to promote and co-ordinate research by public and private bodies into the popula-

tion and economy of the Metropolitan Toronto region and to facilitate the interchange of statistical information, methods and findings." You will see the relationship between this and what we are involved in today. Our membership includes representation from the three levels of government, federal, provincial and municipal, the universities, utilities, private industry and business. Besides providing a forum for addresses by specialists in the fields of Planning and Development, the Conference has prepared and published a catalogue of statistical data for the Metropolitan Toronto Area. Included in its contents are sections on population, employment, labour force, land use, housing, manufacturing, other industry, commerce, finance, transportation, education, community services, utilities. Among the larger contributors of information are, of course, the Dominion Bureau of Statistics and the Planning Boards of Metropolitan Toronto and the City of Toronto. One of our working groups, the Intercensal Committee, has been engaged, for some years, in census studies and has been in touch, at various times, with representatives of the Dominion Bureau of Statistics with, what we hope are, constructive proposals. I hope that these brief remarks will indicate our deep interest in the objectives of today's conference.

Following Mr. Macdonald's introductory remarks, I shall try to present an industry view: In our society, a government tries to collaborate with industry to create conditions under which industry may thrive and thereby contribute to the general

welfare and prosperity of the people. To provide for its services, governments raise money through taxation and it is a vital concern to all that taxation revenues are wisely and efficiently spent. This Conference today has political, social and economic significance. Most industries, I believe, are both providers and users of statistics. Information flows from industry to governments, mostly in the form of periodic returns, which are required under statutory legislation. Procedures and conditions are set up by the government departments in most cases. As governments extend their scope and increase their services, the number of these returns grows steadily and the costs of furnishing them, tend to rise. Other sources of information are produced by industry in connection with applications to governments, in our case, for permission to construct, to export, to import, to introduce new rates, to obtain franchises and to do many other things which are subject to government regulations. Other information is brought out in connection with the Royal Commissions. Our company was invited to make a submission, some years ago, to the Royal Commission on Energy, Mr. Henry Borden, Chairman, and we were requested to include, among other things, a thirty-year forecast of energy sales. I might say, in this connection, that we were very grateful to the Ontario Department of Economics and Development for a population study with a forecast of population growth, which we used as a basis for our own studies. Consumers' Gas Co. makes something like two dozen regular returns, some monthly,

some quarterly, some annually, to various departments of both provincial and federal governments and special technical reports are made to Ontario Energy Resources Management, from time to time. Another source of useful and valuable information, are corporation annual reports and company prospectuses, as prepared for the investment community. An industry needs and makes use of a great variety of statistics, which it obtains from many sources, including governments, government agencies, trade associations, published materials, other industries and by studies and research. I think it would be safe to say that no industry can survive today's intense competition without continually assessing its position, recognizing its problems and needs, and planning its own corporate fulfillment.

Up-to-date information is vital. Electronics and the development of the computer have placed in our hands a revolutionary instrument which will enable us to rapidly improve productivity, recognized as an essential ingredient of industrial success. A recent press report indicates that there will soon be about 900 computer installations in Canada and I'm certain that wider applications are developing much faster than is generally realized. I understand that the exciting achievements in space study are only possible through the use of computer systems. Automation of industrial processing is based on the computer. We seem only to begin to understand the magic that is now within our grasp, but it is essential that we do so as no one is beyond the reach of its power and effects. The best

information available is needed by industry for decision-making. This is possible when all information sources are integrated, through the co-operative efforts of all parties involved in the collection, processing, and retrieval of statistics. - Thank you.

Dr. K. Cheng,
Director, Ontario Statistical Centre,
Ontario Department of Economics and Development

Thank you, Mr. Chairman, for your very kind introduction. I am extremely pleased and honoured to have the opportunity of addressing this meeting today, and to outline the role of the Ontario Statistical Centre.

The purpose of a Statistical Centre is to collect and distribute statistics. The fundamental reason for the emergence of a Statistical Centre may be attributed to the rapid rate of economic growth enjoyed by our Province and the resultant need for more, better and timely statistics.

Economic growth brings forth the problem of adjustment in all sectors of the economy and requires prompt mobilization of resources. Efficient economic adjustment entails improved decision-making by all parties concerned, including government officials, businessmen and consumers. Efficient decision-making necessitates more timely statistical information. The relationship of decision-making and statistics is presented in Figure 1.

Figure 1 indicates the information flow in a business system of a man-machine type. Here, one may simply define the system as "an entity of components, both human and physical, organized to achieve a common goal". The goal for a businessman may differ from that of a policy maker in government, or a consumer in a household. Regardless of the type of goal chosen for the party concerned, the relationship of information-flow and the decision-making process is identical, and the illustration of Fig. 1 applies in all cases.

INFORMATION FLOW

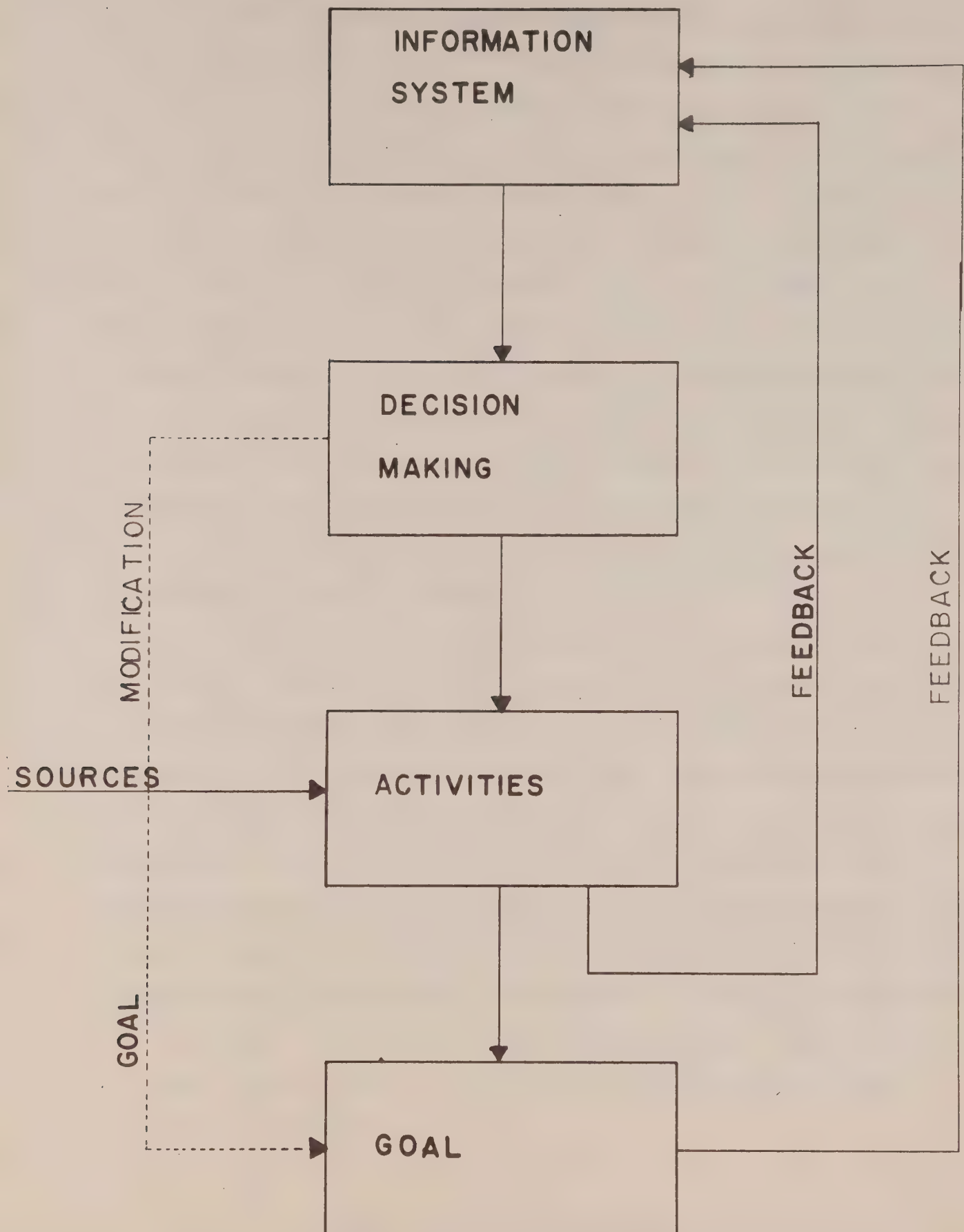


Figure 1

The Information System depicted in Fig. 1 contains information both in numeral and non-numeral forms. By utilizing this information, a decision is made (Decision-Making), and an action is taken, involving use of resources, (Activity and Resource), and the result of the action is evaluated against the goal intended (Goal). In government, it may be the decision to establish a policy, and in business, it may be a decision to invest. After the evaluation of the achievement against the goal, the information is recorded and sent back to the information system (Feed Back), and the next round of the decision-making process takes place. Before a new decision is made, the goal may be modified based on the new information (Goal Modification). In government, it may be a revision on the planned rate of economic growth or changes in the "guidelines" issued to business.

This Analysis brings into perspective the importance of statistical information to every sector of the economy, including government, business and consumers. Before a decision is introduced, information must be made available. This brings out the importance of the timeliness of statistics. After the decision is made and activity takes place, the result must be measured and transformed into statistics and compared with the goals established. The statistics newly obtained after the completion of activities must be processed, classified and stored within the Information System in preparation for use during the next round of decision-making. This illustrates the importance of the collection, classification and storage of statistical information.

May I therefore bring to your attention that, in view of the above, the Statistical Centre is established to provide the function of measuring the result of the activities performed, either in the government or private sector, collecting them in the form of statistics, classifying and storing them at the Data Bank, and releasing them to the users within the province.

Analysis of the information flow and decision-making process in the above reveals four important criteria upon which the Statistical Centre should gear its operation in the future:

1. Timeliness

Statistics must be timely and current.

2. Accuracy

Statistics must be high in quality and must possess a minimum of errors.

3. Comprehensiveness

Statistics must be available in a wide variety. For efficient and effective decision-making, several types of information are required.

4. Economy

The cost of producing statistics should not be high. To achieve this, an efficient organization is required.

The Ontario Statistical Centre will also be charged with the responsibility of performing the following functions:

1. to administer the Ontario Statistics Act.
2. to collect, compile, analyze, publish and store statistical information.

3. to serve as a central clearing house for statistical data within the province.
4. to assist all departments of the Ontario Government in collecting, compiling and publishing statistical information.
5. to co-ordinate and serve as a liaison among Federal, Provincial and Municipal Governments in matters concerning statistics.
6. to carry out statistical research and develop standards.
7. to strive for the development of a General Purpose Information System with a Data Bank which would collect available administrative data to develop information for statistics and management decisions.
8. to bring together representatives from Government departments, industry and universities periodically to discuss their statistical programmes and needs.
9. to provide assistance in automatic data processing in terms of the use of computer facilities or programming services to departments or agencies which may need them.
10. to promote a constant campaign to gain the co-operation and understanding of the public and to make provincial and local officials, as well as private industry, aware of existing statistics and their possible uses.

In view of expanding government services and the enormous progress in automatic data processing technology during the past decade, a survey was conducted within the Ontario government last year to appraise the various electronic data processing equipment presently in use, from the viewpoint of cost, application,

utilization of capacity and the possible uses or expansion of A.D.P. services in the government for the next five years. In this survey, effort was made to determine, among other things, the amount and variety of statistics and management information required by the various departments and agencies of the Ontario government and the possible manner in which modern electronic computers could be utilized to meet these needs.

The survey yielded a wealth of information. Findings which are particularly relevant for our meeting today are as follows:-

1. Some Statistics currently available are not timely or comprehensive enough.
2. A substantial amount of unfilled demand for statistics and other managements information exists.
3. A great amount of information is already available in the various business forms of the government such as application forms for drivers' license, welfare, traffic accident report and others. Much of this information, however, is not in a form which can be readily processed into statistics.
4. These business forms will eventually be computerized.

In view of the findings, the Statistical Centre has proposed a solution to these problems by means of a newly developed method in computer and information science which is called "A General Purpose Information System" (GPIS).

A GPIS is an information system which is designed to serve a wide range of organizational functions and purposes. It provides data on multiple functions and multiple purposes.

A state or provincial government has a great variety of activities organized in functional departments covering law enforcement, education, health, welfare, finance, agriculture, highways, transportation, natural resources, trade and commerce, and others. An information system could be created for each of these functions, for example, the New York State Identification and Intelligence System, Automated Hospital Information Processing System, Regional Data Bank, Metropolitan Data Centre Project etc. The GPIS of a province is not designed for each but for all ranges of these activities.

Until recently, this type of approach was not possible because of technical difficulties and high cost. The development of a big memory in a computer, particularly the availability of random access memory device and the remote processing capability of the third generation computer, has made GPIS technically feasible and practical for government operation. Furthermore, the cost of electronic data processing has declined to one-third, and in some cases to one-fifth compared to that in 1960. This cost reduction has made G.P.I.S. particularly suitable for the purpose intended. The G.P.I.S. has been in application in two counties in the U.S.A. for about sixteen months.

The G.P.I.S. in government is similar to the nervous system of a living organism. For a living organism to thrive

efficiently, it requires a sensory organ to provide control and to enable it to adjust to environmental conditions. To accomplish this, a living organism has a nervous system which permits it to transmit stimuli. The G.P.I.S. is a computerized information system. It is embedded in the total entity of a government and performs the function of providing adequate information for control, regulation and operation of the entire government. Thus, its nervous system is the communication network and the stimulus is information.

The scope of communication envisaged in the G.P.I.S. covers the following:

a. Interdepartmental communication:

The Centre will provide central storage and distribution of common information to all departments of the Provincial government as shown in Fig. 2. At the first stage, communication will be done by traditional methods such as bringing papers, cards, or magnetic tapes to the Centre. Departments with manual operation or with unit record machines are represented in triangles or squares in Figure 2.

As departmental automation takes place, information will be transmitted through telecommunication. At this stage, data processing in all departments are mechanized as shown in Fig. 3. This is called horizontal communication.

b. Communication with federal and municipal governments:

COMMON INFORMATION SYSTEM

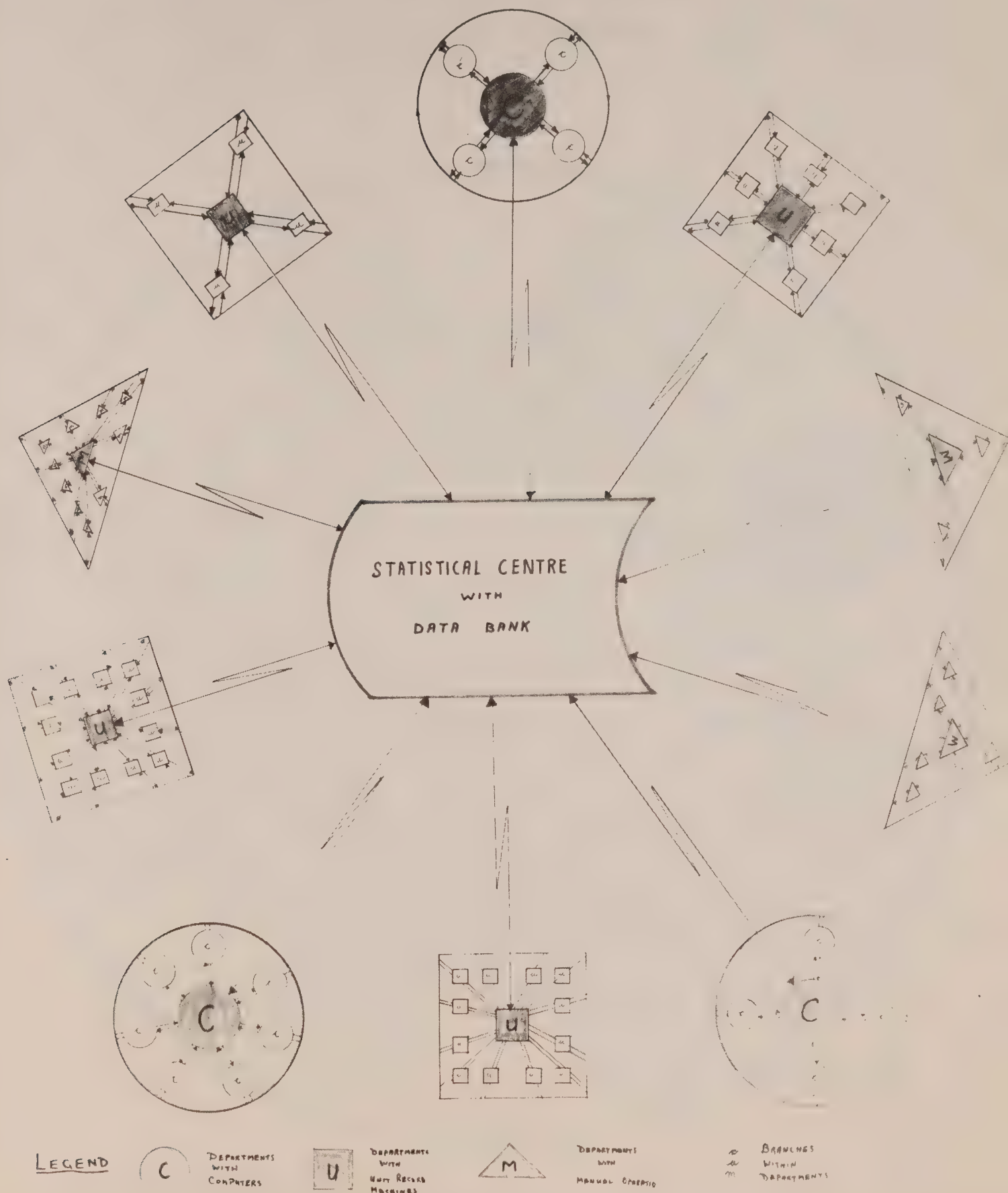
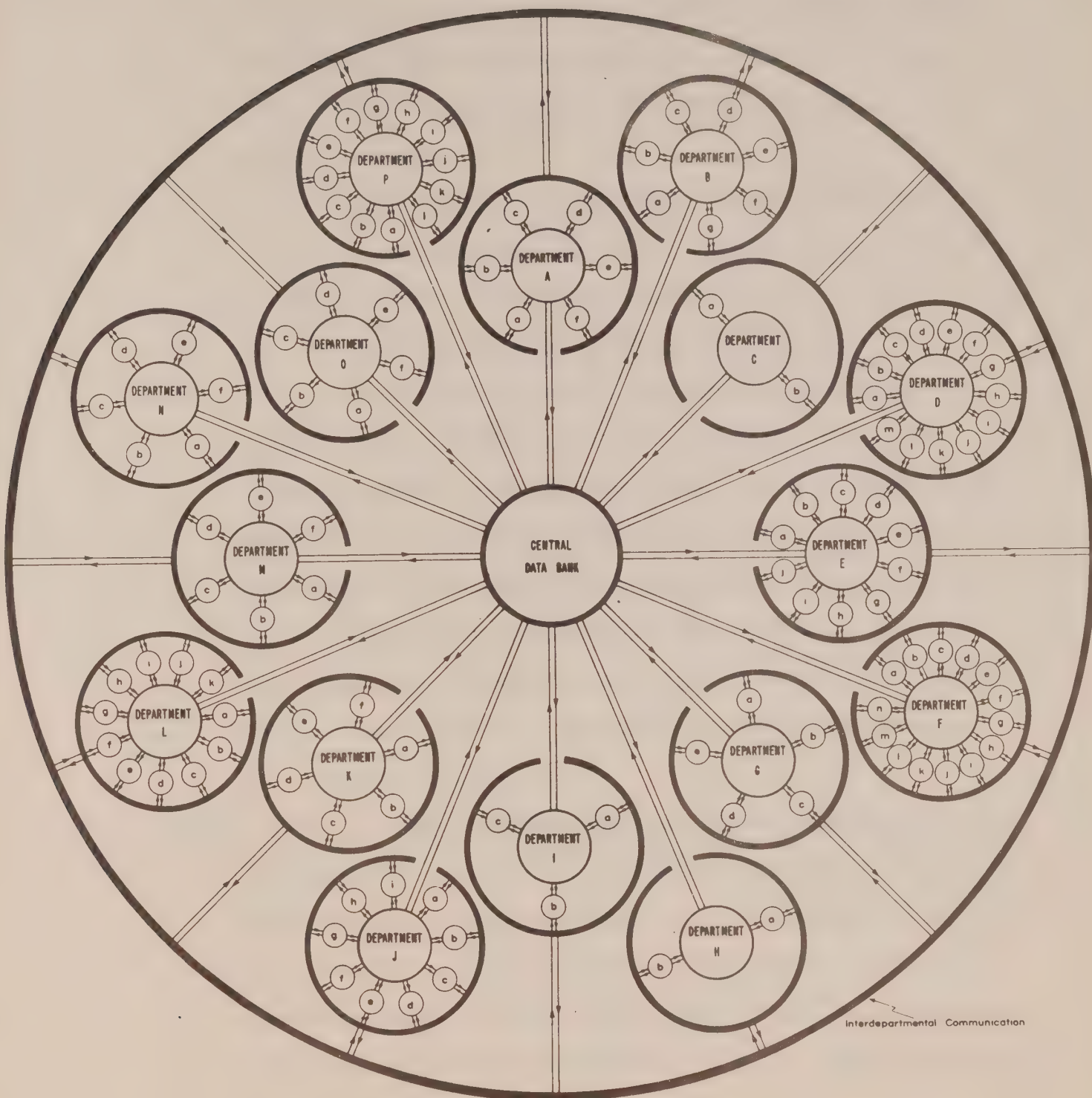


Figure 2

STATISTICS—COMMON INFORMATION

ONTARIO GOVERNMENT DEPARTMENT LEVEL



Letters a, b, c etc denote typical Branches
within Departments

Figure 3

The Centre will also try to communicate with the federal and municipal governments in exchanging information at the latter stage of its development. This is called vertical communication. Unless the communication goes beyond its own level of government, GPIS will not realize its full effectiveness.

c. Interprovincial or interstate communication:

No plan has yet been devised for interprovincial or interstate communication.

d. Exterior environmental communication:

The Centre will also communicate with industries, citizens, schools, institutions, etc. through census or sample surveys. It will disseminate information through statistical publications and retrieve information from the data bank in response to a request from industry or the public.

The information input of the Centre consists of three groups, namely, common, survey and miscellaneous information.

a. Common Information:

Departmental business forms normally contain two types of information - Common and Unique. Common Information relates to those items which are also of interest to people outside the department. Unique Information is concerned with data which are mainly of interest to the department itself. The Centre processes Common Information.

Common Information is essentially the major source of administrative statistics. This is not limited to provincial government departments and may be obtained from other levels of government through vertical communication.

b. Survey Information:

In addition to information obtained from business forms of various departments the Centre collects data by means of sampling surveys and censuses.

c. Miscellaneous Information:

The Centre obtains information from sources other than the two mentioned above, such as magnetic tapes from Industrial firms, Dominion Bureau of Statistics, and others.

It must be strongly emphasized at this point that the GPIS requires full support and co-operation from all departments and agencies of the government, particularly during the stage of converting the departmental operation into a computerized type. In order to minimize the cost of information collection and to speed data assembly, it is necessary that computer programmes written by all departments be of a "Dual Purpose Programme" type which has the capability of performing two functions - (1) routine operation (printing cheques, issuing drivers' licenses, etc.) and (2) assembling Common Information for updating the master file at the Centre.

See Figure 4.

INTEGRATION OF ROUTINE WORK AND INFORMATION ASSEMBLY
(Dual Purpose Programme)

- 23 -

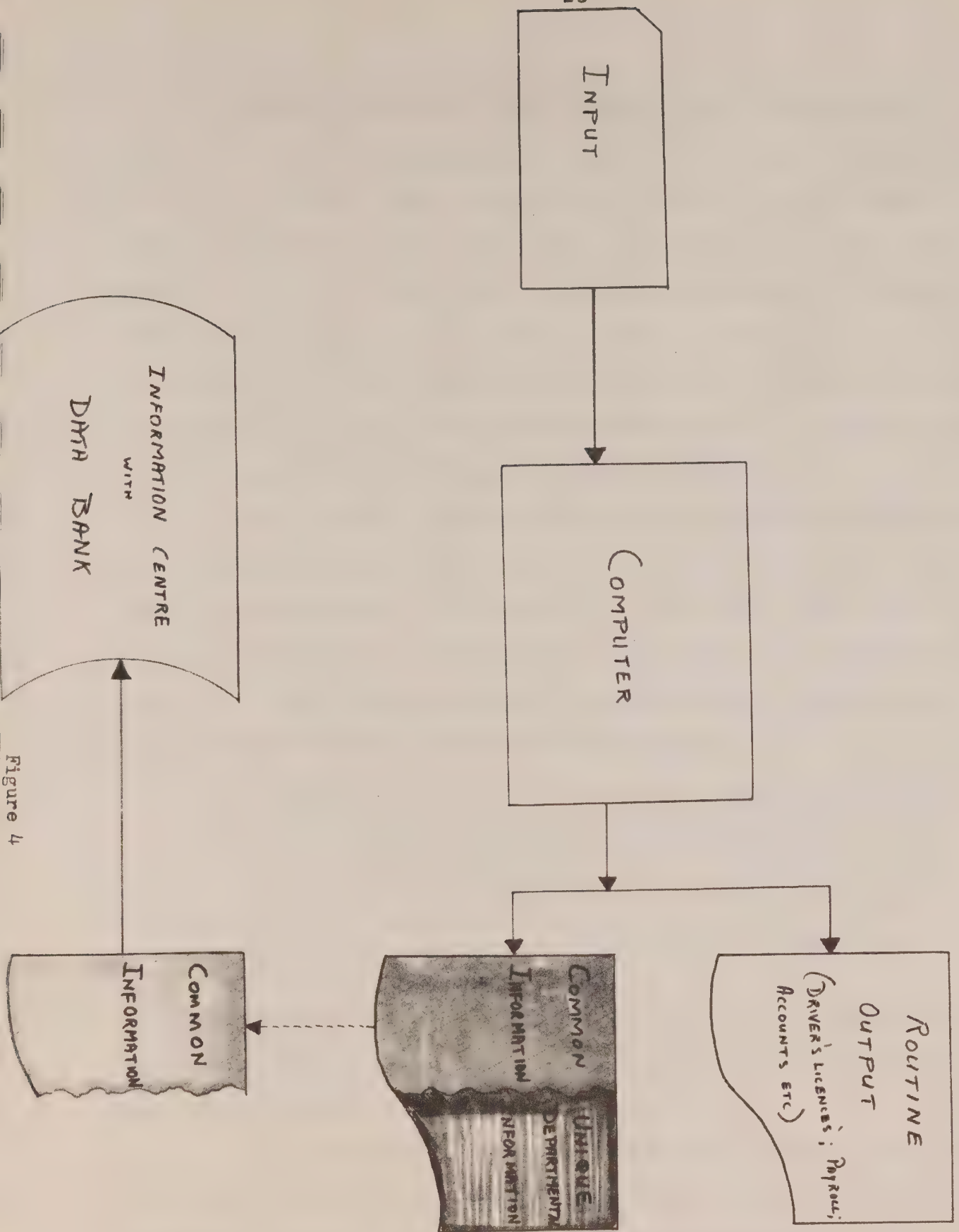


Figure 4

Another important area requiring the cooperation of all departments is standardization of information items. Common coding and classification, and standardization of information items or statistics are the prerequisite for development of a GPIS. Without common coding and classifications it is impossible to accomplish effective interdepartmental communication. Standardization of statistics and information items are absolutely necessary for interdepartmental and inter-governmental communication. Standardization ensures comparability and consistency of statistics.

The movement toward common classification and standardization of statistical information should not stop within a nation, but needs to be extended to all nations of the world. The need for world-wide statistical standardization is expressed in the following statement of the United Nations in connection with the creation of international standard industrial classifications:

"The purpose of this international standard classification is not to supercede national classifications but to provide an up-to-date framework for the international comparison of national statistics. In order to attain international comparability, therefore, it is necessary for all nations to adopt in their industrial classifications, so far as individual requirements permit, the same general principles and definitions".

Recognizing the importance of common classifications and standardization of statistics, the Centre has created a section which deals with classification and documentation.

The GPIS which I have described is a computer based system linking all departments. The establishment of a GPIS would facilitate exchange of common information among departments and would be an

ideal method for producing administrative statistics. Since the communication is electronic, the production of statistics would be greatly improved and, consequently, the Centre would be able to produce more timely statistics.

The procedures which I have outlined are both modern and efficient. To achieve these goals, however, much effort and support must be obtained from all parties concerned, both inside and outside the government. It should be obvious that the Statistical Centre is not a central bureau of statistics of the traditional type. It is an information co-operative where everyone is a member. All departments deposit primary data and withdraw processed comprehensive data from the pool of information or data bank. It is established to serve all people interested in statistics.

The Centre does not intend or aim to centralize the statistical operation of the Ontario Government. Its purpose will be to co-ordinate and assist the departments and agencies of the provincial government in jointly sharing the fruits of technological progress which is not possible without the combined efforts of all parties concerned.

One should not forget to emphasize the important role of local governments in the information system. It has been found that municipal governments are, in many cases, the originators of many types of information in the provincial government. Unless municipal governments are invited to play a big role in the GPIS, it is impossible to realize the advantages of a total information system. A great deal of planning and research must be undertaken in this area. Fortunately, however, favourable results have been reported from pilot studies conducted in the U.S. I am confident that,

given the cooperation of the municipal governments, we shall be able to make our information system a more effective one in the years to come. GPIS rests largely on the computerization of business procedures in the government. For an efficient transformation from manual to machine-oriented systems, much attention ought to be directed to systems and procedures work. Consequently, we are looking forward to the guidance and cooperation of the Organization & Methods Services of the Ontario Government. Because of its nature and planned method of approach, the Statistical Centre will not be competitive to DBS, in the sense of duplicating the Bureau's efforts, but it will rather be complementary and may even serve as an important contributor of primary information to DBS for producing national statistics. The Centre hopes to work closely with DBS and will look forward to their guidance and leadership.

In closing, may I reiterate that the plans for the Centre are rather idealistic and represent a long-run outlook. To achieve the goal of a GPIS it is necessary to enlist the support of all municipal and provincial government departments as well as that of private industries. If industry is to expand its production capabilities it must have access to up-to-date information on a variety of economic data, including potential markets, consumers ages and incomes etc. If government is to be called upon to provide much of these data then industry must be willing to provide the basic information from which such data can be produced. Thus, continued economic development, both provincially and nationally, rests on the mutual cooperation of all sectors of the economy.

MR. L. E. ROWEBOTTOM,
Assistant Dominion Statistician,
Dominion Bureau of Statistics.

May I first say on behalf of my colleagues from DBS and other Federal Agencies who are here this morning, that we welcome the opportunity to participate in this Conference.

It gives me very considerable pleasure to take this opportunity to say how much we welcome the creation of the Ontario Statistical Centre and that we wish every success to those who created and to those who will be managing it. It has been described earlier this morning by Mr. Macdonald as complementary to DBS, and I know this to be the case on the basis of the rather extensive co-operative arrangements that we have already worked out. The emergence of the OSC, as I am sure it will come to be known, is particularly welcomed because it comes at a time when we are confronted with an explosive change in both the demand for statistics and the technology available to produce them. Both users and producers of statistics will need all the assistance they can acquire in coping with the problems and exploiting the possibilities inherent in this new situation, and I very much welcome new allies and colleagues in the Ontario Statistical Centre. I think it's contribution is already evident in the convening of this Conference with its theme of co-ordination in the demand and supply of statistics.

Let me talk for a moment or two about the demand side

as seen by an administrator of a federal statistical agency. The most evident change in demand, which I think can quite properly be described as explosive, and which has occurred in only the very recent past, is the demand for small-area statistics. We in DBS have been producing small-area statistics for a long time and one of the basic reasons for censuses of agriculture, population, housing and industry has been the resultant small-area information. However, in a number of other instances, small-area data have almost been by-products of processes designed primarily to produce national and sometimes provincial statistics. The processes were not primarily geared to the development of information for small geographical areas because there was not much demand for such information. This situation has now radically changed, reflecting society's determination to shape and control its economic environment and to solve its problems of production, distribution of wealth, sickness, poverty, education, old age and so on. Our society has developed new agencies at all levels of government to cope with these problems. Such agencies are confronted with the problems of making new decisions, many of which have a regional orientation, and the statistical agencies are confronted with a corresponding demand for data to support these decision-making processes.

Another, and I think important, new arrival on the scene is what has become known as regional science with its emphasis on the quantitative approach; its inter-disciplinary

character and its linking of physical, social and economic information and sciences; and the exploitation of computer and analytical techniques to develop new insights into the ways in which people live and work together. I think that the demand for data as represented by this group is in its infancy, and we in DBS are already indebted to it for bringing users and producers together to achieve new analyses.

As is frequently the case, demand precedes supply and new demands for statistics have preceded the ability of statistical organizations to meet them. This is clearly the case with the Ontario Statistical Centre, and Dr. Cheng has taken the opportunity afforded by this Conference to point out that he is not going to provide vast amounts of new information tomorrow. In relation to the demands made upon it, DBS is relatively small and under-staffed. However, it is an important fact that the Government of Ontario has responded to demands by creating a new statistical agency and that the Government of Canada has responded by the addition of substantial resources to DBS and we anticipate further substantial growth. I think that the relative "newness" of these statistical resources reflects both a new appreciation of the importance which society at large attaches to statistics and the support which governments are prepared and willing to provide to statistical agencies.

The creation and growth of statistical agencies brings with it the attendant problems of recruiting and training staff to assist in exploiting new computer techniques to satisfy the

information requirements of society.

The changes that I have referred to in both the supply and demand sides indicate the importance of priorities, since the statistical agencies will not be able to satisfy all demands simultaneously. Thus the intelligence, knowledge and judgement that can be brought to bear in deciding priorities will be of considerable consequence to both users and producers of information. To illustrate the problem - educationalists feel the need for great expansion in the information available to those concerned with problems of education; those in both the business community and in government feel the necessity for vastly increased information about Canada's international trade, both physical and financial; almost every one concerned with either understanding or deciding a wide variety of problems of our society, wants more information about its population and characteristics. As I have indicated, we will not be able to meet all of these demands at once and will have to balance the application of existing and new resources between these competing demands. Any assistance that this Conference can engender to cope with this problem of priorities will be welcomed.

A related but somewhat different factor concerns the importance of time as an input to the statistical system. I was pleased to hear Dr. Cheng refer to this, but there is no doubt that it is more widely appreciated amongst producers than amongst users of statistics. The latter group must recognize that there has to be a substantive lead time between a decision

that certain information is important, and its availability. There is no such thing as instant statistics.

I think that the difficulty of recognizing the necessity of both resource and time inputs rises from the fact that the information process is largely invisible. It is not so obvious that it requires the application of the factors of production to create information as to create a new highway or office building. But obvious or not, the need for time and resource is there and there is nothing inherent in the process of asking for information which equates with the biblical admonition, "Ask and ye shall receive".

A third factor in the present situation is the importance which we at the federal level, and which Dr. Cheng has so clearly described at the provincial level, attach to exploiting for statistical purposes the information which exists in administrative records. Our mutual concern is to improve access on the part of the administrator to information as it arises from administrative processes and, at the same time, to use that information as part of the statistical system. This is not a new process but it is one which has acquired a new dimension and importance and which requires new articulation. A good many of the statistics of DBS have been based on administrative records from the very beginning, but the importance of the administrative process as part of the statistical system is not as widely appreciated as it needs to be by administrators, by users of statistics and, indeed, by statisticians. Of course, the new

importance attached to administrative records as information sources reflects the availability of a new computer technology.

In fact, basic to much of what I have been saying this morning is the importance of exploiting the capacity of computers to assist in the development of information systems. I think that we in DBS have been in the forefront and at the same time, lagging behind in exploiting the full potential of computers. We were amongst the first in Canada to acquire a computer, at that time one of the largest available on the market, to process the 1961 census. The computer revolution has grown so fast, however, that we have not been able to keep up with it and we are now inhibited by the capacity of what has become a small computer. For some time we have been re-assessing our computer requirements in the light of new circumstances including those inherent in the phrase "data banks".

Finally, I think that these extensive changes in both the supply and demand side indicate the need for a serious look at the means of communication between users and producers of statistics. I suspect that the traditional means of communication need to be supplemented and strengthened in the new environment in which we find ourselves. Over the years, a variety of means of communication and co-ordination have developed, including committees involving all levels of government and all parts of the private sector. These are important but I feel that something more is needed and perhaps it will emerge out of this discussion. As an example, from our point of view, the 1971

census is practically upon us. Starting now, even before the 1966 census is taken, the lead time seems insufficient to ensure a census which will be adequate to the information requirements of the 1970's. I feel this to be the case and my colleagues in the Census Division feel it even more stronger than I do. There are a myriad of questions relating to both content and methodology which must be asked, answered, and the answers made operational. However, it is certain that the 1971 census will not give all users everything they want and we will be confronted again, as we have in the past, with the problem of priorities. We cannot ask 20 million Canadians every question that every researcher and decision-maker would like us to ask, so we will have to decide from amongst alternative possibilities which should receive priority and I would like to see some process whereby users assist the statistical agency in appraising these priorities. In effect, I would like to see users arguing amongst themselves about what to eliminate, in addition to their arguing with the statistical agencies for the inclusion of what they are interested in, to the inevitable exclusion of what somebody else is interested in. Mr. Moogk referred to suggestions which we have already received from representatives of the Toronto scene regarding the 1971 census. These, we very sincerely welcome as they show important foresight on the part of census users. For our part, we shall continue the dialogue and would like to see it extended.

Time will not permit me to describe many of the things

that we have been doing in DBS, but let me hurriedly run through a few of those which might be of interest to you. First, in recognition of the demands for regional data, we have created a new organization titled "Regional Statistics and Analysis Staff". One ex-member of that staff whom we were sorry to lose to ARDA is here this morning. We look to this organization as a focal point for liaison and communication with those concerned with regional problems. In effect, we expect to have within DBS a spokesman regarding the need for regional data; and an organization which will undertake some regional statistics and analysis and which will assist in the development of new regional statistics. We expect it to concern itself with problems of arial boundaries and classification and to work with Mr. McKellar, our Director of Classifications, who is also here this morning.

It will be of interest to you that our first data bank of economic time series is in the process of construction. This bank is being created primarily in response to the need of users in federal government departments for DBS data in machine readable form, readily accessible and capable of being manipulated according to analytical requirements. I know that some of you here have used DBS data in the form of computer tapes and have undoubtedly been frustrated because other DBS data was not similarly available.

Where we go next in the development of data banks is still a question but we will certainly be developing a variety of them. The human and physical resources that they will require,

the timetable to which they can be developed and the objectives they will serve, yet remain to be clarified. I thought that Dr. Cheng's comment when he was referring to the development of computer-based information systems was entirely appropriate. He said simply "To put them into operation, it takes a long time". I am convinced that one of the dangers of continuing reference to data banks is over-simplification. They are, I suspect, far more complex and far more demanding than is typically realized, particularly by those who want to use them as contrasted to those who will have to create and manage them. Quite apart from their methodological and technical aspects, they pose problems relating to the confidentiality of information submitted to us. These problems must be solved since confidentiality constitutes as we see it, a basic foundation of the statistical system. They also involve problems of coding and classification, but perhaps the biggest challenge they pose is the necessity of developing new ways of looking at, thinking about, managing and using information.

MR. E. D. KINGSBURY,
Manager, Systems & Computer Services Department,
Imperial Oil Limited.

It is a privilege to be invited to participate in this conference. I found it very difficult to determine exactly what should be said. I jotted down some remarks and am not surprised to find that most of the things I was going to cover have already been said by a number of people. This only suggests, however, that what we are talking about is really a common problem; a problem that exists not only in the private sector of industry but also in government and other fields as well. All I propose to do is offer some general comments.

I cannot say specifically what the manufacturing section of private industry expects in the way of statistics because I can't even define this in our own company. If I attempted to present to you to-day what various people in Imperial Oil thought was necessary in the field of external statistics I am sure you would think it impossible to get any agreement. It would be necessary as a minimum to have a large amount of the "dialogue" that we have referred to already.

Industry is interested in large masses of data which it processes to provide information for various purposes. Much of these data arise within the organization and relate to physical operations and service activities. In many areas data are required from outside the organization - these, as far as the individual company is concerned, might be called environmental

information. It is important to recognize of course that what is environmental information to one company is internal information to another and this emphasizes the inter-connection that takes place through our whole economy. If we have a demand for external data on a regular basis then we may develop a routine system to accumulate and process them. The sources of these external data vary, as does the degree of accessibility, the quality of the data, its timeliness, continuity, etc. I think it is important to recognize that today there is very little external data that is available in what I would call machine identifiable form. What I mean here is data that can be made available to a company and can be fed directly into its own internal machine processing systems without keypunching or conversion to machine language. A company needs considerable amounts of external data. To a large extent these data are used in the planning process and in research activities. Of particular interest are data which are associated with general economic activities or to those particular areas of business activity which are pertinent to the company's own operations - for example, those that relate to customers or its competitors, both in the sense of competitors who may be involved in the same activity or competitors who are competing in the same market for the consumer's dollar, such as alternative energy sources.

A company such as ours is interested in any sort of a project which will make useful data more readily available. We recognize that cooperative action is desirable and essential. While there are a great many problems to be faced in developing

any specific project, certainly, a forum of this nature is a useful starting point. I think a lot of our own experience in the last ten years in developing common data systems and some centralized processing facilities, etc., is pertinent to a project of this nature, although the problems become more complex when we haven't the same organizational cohesion. Within a single organization we always have an opportunity to put pressure on people if necessary, perhaps right from the top, but certainly the problems which one faces internally in an organization are not too dissimilar from those that we may be talking about today.

One possible approach to meeting the needs of a diverse group who are potential users of statistical data involves the development of a data bank. Reference has been made to this a number of times already. In our own company we have already adopted this concept in developing our own internal data systems in many areas. For example we have an employee records system using a data bank of employee information. In our producing operations we have a well data system, based on a data bank. In our general marketing area we have a sales data bank. The basic approach is to develop a pool of either raw data or data which may have been processed up to a stage and from this bank we can make extractions to meet special needs which in many cases are regular reports but may turn out to be special reports, inquiries, etc. There are many basic issues that have to be resolved in developing any data bank; which data should be collected, how they should be obtained, how they should be identified, what

techniques are to be used, what extraction routines are necessary to enable the potential users requirements to be met and, finally, another point that was previously mentioned, how the security of data can be assured. In other words, who is to have access to particular kinds of data which may be stored in the data bank? Of course you get into a very significant problem when you are talking about things such as employee data in this area.

I suggest that these and many other problems would be faced in any sort of a cooperative approach to developing a data bank for economic or statistical data. Probably the basic question is what data ought to be collected. In other words, what are the real needs of the user, and Mr. Rowebottom has already referred to this very specifically. I think this is a very significant problem because, even internally in a company, when we try to establish integrated systems we are continually trying to find compromises between the demands of a number of alternative users. All demands really can't be met economically with the resources available or probably cannot be maintained within the capacity of the computer system. We also have to resolve the big question of how this data is to be identified so that it may be made available to meet the demands that are placed upon it. Part of our problem is the fact that no matter how hard we try we cannot really foresee our needs far into the future, so our system has to be structured on a flexible basis in order to give us as much of this ability as possible.

From the point of view of a private company I would like to suggest that any sort of cooperative action which might be taken to develop a project of this nature should recognize two or three things. First of all, whatever is done, the system should not duplicate but should supplement data presently available from various sources. There are today many sources of statistical data available and from the point of view of a user, and a person who to some extent has to pay the bill, I think it is most important to be sure of not developing any duplicate systems. Now I know the objective of a project such as this is to avoid duplication but it must be recognized that, and this leads me to my second point, we can quickly move from a local, municipal or provincial area into a much broader field. For example, this conference is related particularly to a project associated with Metropolitan Toronto, while a company such as Imperial is a national company faced with the same kind of needs and the same kind of recording requirements right across Canada. We are anxious to see that we don't end up with nine or perhaps more recording systems because we have found that if we are going to get the efficiency that computer processing can provide we must have common systems. A third thing which I think it is important to note is that we must be very selective in the determination of the data that we are going to accumulate and store. While our modern computers have storage capacities to handle billions of characters of information we soon find even this storage is not unlimited, and the economics of the process-

ing system is related very largely to the efficiency with which we use the space that is available.

There are a number of kinds of approaches that could be made to a project of this nature. We might assume that there is a central data system to which clients could have access on a routine, manual request basis. If we think of a little more sophisticated system, we can talk of having the central data bank with some sort of machine inquiry facility in remote locations and with off-line access. Ultimately, if we project ourselves a little further into the future we can contemplate a central system where all users have direct access to the data bank through remote on-line facilities, assuming we have some control procedures to ensure that he is entitled to access to the particular data desired.

I do believe that we are moving rapidly into an area where there will be a very large exchange of data in machine identifiable form not only between individual departments but between individual companies, between companies and government, etc. There has already been a fair amount of progress made in this area in the United States. You are probably aware that in the tax field many of the reporting returns that are now submitted in hard copy form could be sent in on punch cards or magnetic tape. Actually many of the companies in Canada today have the facilities to provide this machine language data to the government, and the government is in a position to accept it and introduce it directly into its own computer system. In our own

company we already have one system where in dealing with the people who supply us with transportation facilities, they no longer submit freight bills to us but we accumulate within our own computer system a record of freight movements. We apply a freight rate table to the transactions and submit a calculation of our freight liability to them on magnetic tape. They feed it in turn into their system and validate our calculation. I am sure that we are going to move very rapidly in this direction within the next few years. This will create many problems but I think it is going to be one of the major influences in reducing the tremendous movement of paper which now occurs.

I would just like to say in conclusion that a company such as ours is interested in the project under discussion here today and we are certainly prepared to participate and cooperate to the fullest extent that is possible.

MR. H. W. MCCALLUM,
Commercial Supervisor, Development,
The Bell Telephone Company of Canada.

It was agreed that I would speak for utilities in general by relating my remarks to the telephone industry on the assumption that we are only highlighting at the moment and that our problems are, very broadly speaking, similar to those of other utilities.

The objective of any utility is to supply its customers, current and prospective, with the energy, transportation or communication services they want, where and when they want them. Our problem is basically people and those things which have an impact on them socially or economically. We want to know how many there are, where they are now and how many there will be and where they will be in the future.

Statistically we are interested in population or census figures from any reliable source. In large metropolitan centres by preference we would like them on small enumeration areas so that we can relate the data, with reasonable accuracy, to the Telephone Company's particular problem of providing adequately equipped switching centres (central offices) in our serving areas (exchanges).

We are interested in family formations and available dwellings. Because of lead times of anywhere up to two years for the planning and installation of plant and the practical limitations from a cost standpoint of either too little plant

or too much, projections of population, households and dwelling inventories are useful guide lines.

In our case, we are affected by normal growth and by the movement of people into, out of, and within our serving areas (exchanges) so that anything that affects movement such as planning, regional development, transportation, immigration and local economics is of interest. In Toronto Area during 1965, we connected about 300,000 telephones to gain 70,000 or a gain of about 4 to one.

When you "know" how many people there are or will be by applying a Persons Per Household factor, you can derive possible households and if you know where your dwelling inventory will be, you have an idea of the direction of your potential. Because people can only buy your service if they have disposable income, we are interested in their economic health. Here again, hopefully, within an economic region, the unit areas should be as small as is practical. This again has reference to the larger metropolitan areas where smaller pockets or localities may not be enjoying the effects of overall economic conditions. Economic projections by regions or smaller units would be very helpful.

To sum up, our basic statistical requirements are in the spheres of:

Population
Households (Primary & Secondary)
Dwelling Inventory
Economics

and those things that affect the movement of people with an area - what is today and what our best view is of what the future might be, in all cases on as small a unit area as is practical.

How can we contribute? Along with other large organizations we provide government (DBS) with information, on a company basis, on such things as our employee force, capital programmes and published financial information. On request from recognized organizations, we provide either company or local statistics on telephone growth or development. We have our right-of-way people, engineers and our development planners out in the field in our day-to-day operations and our approach will be one of all possible co-operation when it has been determined how best we might contribute as far as both current data and future projections are concerned. As with all such programmes we would agree with you that the results to be obtained would have to warrant the costs involved.

Speaking about possible sources of information, I wonder if consideration should be given to the possible use of those whose duties take them daily into the field (for example postmen and meter readers) as information gatherers for such things as current house counts, occupancies, vacancies and households, etc.

It would be a neat arrangement if we could feed our centralized statistical monster with our problems and get as output a prescription for a really good quality crystal ball or the name and telephone number of a reliable soothsayer. In the absence of such labour saving devices we will probably have to substitute the usual "blood, toil, tears and sweat". The sponsors

of this conference are to be commended for their courage in approaching this problem to get some advance planning done before we all start riding off in different directions.

MR. R. E. T. LONG,
Assistant Supervisor, Economics,
The Bank of Nova Scotia.

Even within the limits set by the localized nature of this conference, finance is still a large subject to cover in ten minutes. I think I can best serve a purpose, therefore, if I limit my remarks to pointing out some of the broad lines along which it would be useful to pursue the collection of financial data in the Toronto area for purposes of economic analysis similar to that which can now be done with financial data available at the national level; and to mention some of the sources where financial statistics are already available in a published or unpublished form. With this in view, it is convenient to consider financial statistics under three headings - personal, business, and government - which I will now look at briefly in turn.

In its broadest sense personal finance relates to the total assets of individuals, their debts, and their current income, expenditures and savings. With statistics relating to the country as a whole at their present stage of development in Canada, no figures are available on total personal assets; comprehensive figures have been produced on personal income, expenditures, and savings; and a wide, but by no means complete coverage of personal debts is available. With this data some useful comparisons can be made between personal income and consumer demands, between personal expenditures and consumer debt,

between consumer debt and personal savings, and the like.

The question arises: how much of this statistical flow-through can be easily broken down so that figures relating to the Toronto area can be identified and isolated? Annual figures for personal income in Toronto are available from the taxation statistics published by the Department of National Revenue; and monthly data on wages and salaries, which account for the bulk of personal income, might be obtained (I mention this as an example) by applying the Toronto pay-roll indexes compiled and published by the Dominion Bureau of Statistics to annual bench marks. On the expenditure side, the decennial census of retail establishments provides information on the value of retail sales for Toronto; and while the D.B.S. does not publish annual and monthly figures for sales relating to the Toronto area, the information is presumably available in the Bureau's working files. These procedures wouldn't take us all the way, but at least they would provide a starting point from which the T.A.R.C. might work towards a measure of personal income and expenditure, and thence of personal savings. The prospects of obtaining statistics on personal debt are more discouraging. Very little of the available information on consumer credit and residential mortgages, which are the areas of personal debt covered by national statistics, is broken down even on a provincial basis. The chartered banks do not supply the Bank of Canada with any figures broken down by area, and I should imagine that neither do other financial intermediaries whose

supply of statistics to the D.B.S. is still in a relatively early stage of development. About the only figure available relating to the Toronto area is N.H.A. mortgages outstanding. This is published, but doesn't take us very far. And I think that, in general, financial intermediaries might be reluctant, for various reasons, to divulge too much information on the geographical breakdown of their activities.

Turning now to business finance, we are faced with a different set of challenges. The areas of business finance which are of most interest from the standpoint of economic analysis are profits; savings in the form of undistributed profits and depreciation allowances; capital formation and inventory change; and borrowings in the form of loans, mortgages and security issues. In a broader context, of course, the difference between national savings and investment is reflected in the current account deficit on international payments and in interest-rate and monetary adjustments. These concepts hardly apply to the present discussion because Toronto has no separate financial existence from the rest of the country - at least, not until such time as the metropolitan government sees fit to declare its independence! I do mention them, however, because one long-range objective of statistical collection should be to develop a measure of Gross Municipal Product, in which case we would need to know the net effect of goods and services flowing into and out of the Toronto area.

Published information on capital investment by manufac-

turing industries for the Toronto area is available in the Department of Trade's annual survey of investment intentions; information on capital spending by other areas of business is presumably available in the Department's working files and should be accessible; and statistics on residential construction are available in some detail from Central Mortgage and Housing Corporation publications. On the financing side, annual statistics on business savings and borrowings might be obtained from taxation returns in the Department of National Revenue, (these are published for the country as a whole, but are not broken down by area) and from annual balance sheets; and current information on corporate security issues is readily available in a variety of sources. Considerable scope also exists for work on dividends generated in the Toronto area and share price trends, but this is spilling over out of the area of economic analysis into that of investment analysis which, being an economist pure and simple, I profess to know little about. And, of course, if we're thinking solely in terms of what's going on in the geographical area of Toronto, the financial data of firms who have one part of their operation here and the rest in other parts of Canada needs to be broken down further.

Thirdly, what about government finance? Municipal finances are of particular interest at the present time because municipal expenditures as a whole in Canada have been accounting for a faster rising share of G.N.P. than provincial outlays, while federal expenditures have actually been declining in pro-

portion; they are also of interest because the combined deficit of municipalities (on a national accounts basis) has been rising, whereas the provincial and federal governments have moved into a surplus position in recent years, and also because municipal debt has been rising sharply.

Revenue and expenditure figures for metropolitan Toronto are available in great detail, of course, and they are in a form which goes part, though apparently not all the way towards conforming with the public finance classifications used by D.B.S., thus allowing for some comparison between metro finances and those for all municipalities combined, and for other levels of government. The greatest need is for a layout of metro finances on the same basis as the national accounts which would enable us to determine more precisely the demand for goods and services resulting directly out of the municipal government's activity and the extent to which its overall deficit is pumping money into the local economy. A more difficult exercise, but one which should be an ultimate objective, would be to try and isolate the effects of provincial and even federal government expenditures and revenues on the local economy; and, of course, this again raises the need for a measure of gross municipal product to establish the dimensions of the local economy viewed as a whole.

Finally, while on this subject of local economic activity viewed as a whole, I think some thought should be given at an early stage to developing an indicator of general business activity which can be kept reasonably up-to-date. At the national

level the statistics which best serve this purpose are the monthly labour force, and employment figures; they have the advantage of wide coverage and of always being available less than a month after they are compiled. I gather from what Mr. Moogk said earlier that work may already be in progress on developing labour force and employment figures for the Toronto area. From what Mr. Rowebottom has said I think we all understand that there is a great need for priorities in developing these various areas of statistical production and analysis. I myself think that some priority should be given to this one area - employment - where up-to-date information would be useful. The value of such broadly based indicators is that they would help to give some perspective to more detailed business statistics which are essentially narrow in concept and application.

MR. K. F. BULL,
Marketing Research Manager,
Toronto Star Limited.

Mr. Chairman, Ladies and Gentlemen, perhaps I should start by defining advertising and marketing. This is a very broad field and I intend to cover only the area of consumer marketing and advertising - the marketing and advertising of consumer products. As a researcher, when I was given this assignment I thought it would be a good idea to do a little research so I have been talking to a group of marketing and advertising people during the last couple of weeks to find out how they react to this idea which we are discussing today. My remarks consequently are not those of the newspaper industry or the publishing industry but, I hope, representative of the marketing group in consumer industry as a whole.

Traditionally, marketing people are not good suppliers of data. To be quite frank we are in a competitive situation and we tend to be a bit secretive. We don't readily hand out information when it is asked for. You can easily see this as you look at the DBS statistics, you can find out that an industry shipped so many products but it is very difficult to find out what the sales were. Yet to marketing people sales are the most important thing. At the moment we are not getting the information we really need from government sources. Largely our own fault maybe. However, it is my experience that of recent years the

trade associations throughout the country are rapidly becoming important sources of sales and marketing information and possibly here we have a source which we could use for our purpose today. While we may be secretive we are hungry for information which is an awkward situation to be in but it is the truth! Consequently, we know what we want and I will just outline half a dozen ideas which I believe will be of use to us here in arriving at what we should be doing.

First of all, Dr. Cheng has mentioned common definitions. I don't want to expand on that any further other than to make the point that these definitions would not necessarily be just provincial or national but should extend also internationally and I am thinking particularly of the United States. My own company recently published a study of the characteristics of our readers. These were broken down in tabular form using definitions which are recommended by the American Association of Advertising Agencies. Thus our data can be readily compared with similar information south of the border.

Secondly, as far as detail goes, one gets a great deal of information through government sources as a marketer, but very often when one is finished using it one is frustrated because you can't get any further with it. I have an instance here - it's now a rather grubby book because I've used it a lot - it's the Population and Housing Characteristics by census tracts for Toronto. It contains a wealth of information but as Mr. Rowebottom pointed out the D.B.S. has not got the facilities to give all the cross

tabulations which would be so useful for us in marketing. I wonder if this sort of information could be in our local data bank so that we could draw on it in this manner. I've mentioned the census tract data in connection with detail. This census tract data is only released at the moment in a published form for Metropolitan and Major Urban Areas. Nevertheless, for marketing executives it could be very valuable indeed if available for any census tract for such things as assessing territory potential, arriving at the ideal territory sizes, in the marketing research field to determine what sort of sample you're going to pick up and also in the selection of media for advertising purposes.

The next point is speed and compatibility. These are points which have been mentioned by previous speakers, I won't say much about them, beyond the fact that the lag time is a problem. As marketers we often feel that if somehow this time could be reduced, even at the expense of less detail in the data, it would be of more use to us. Incidentally, in talking to my small sample of marketing executives I did find, and I'm sure the organizers of this conference will be pleased to know this, that people are prepared to pay for this type of information particularly for the more detailed work which might be required. Compatibility has been mentioned and this goes without saying.

Another angle is that marketers are not too familiar as a whole with the complexities of the computer system and very often they have difficulty in describing what they want in the terms with which you are familiar. Consequently, there are times

when it would be useful to have a good catalogue system. A man may call up your department and his description of his problem would be quite different from the way you would describe it. Unless the two can get together, of course you may produce the wrong information and he'll slam the phone down and say, "Well it's no use going to those people". So it is essential to have a good catalogue system and with it experienced librarians who can determine what is actually required because marketing people very often are not even aware of the sources which are available to them.

My last point is on interlocking information. We have had mention of the fact that this system if we set it up should operate in conjunction with the federal system and other provinces. I heartily endorse this because most marketing people are not working all the time within one province but are looking beyond provincial boundaries. To this end we have already heard mention of the Toronto Area Research Conference's Intercensal Committee. I would also mention the American Marketing Association which has a census advisory committee. I mention the American Marketing Association because they have a very strong chapter in the Toronto area and I am sure that they would be prepared to co-operate in this way.

Finally, I would like to end with a quote which I read recently in a speech by Mr. Gale Smith, Director of Advertising for General Motors in the United States, because I think it sums up simply what the marketing people are looking for in this area.

He said, "I think the advertiser should be able to buy a pound of people or a pound of territory as today you can buy chicken breasts or legs without getting stuck with the whole bird".

Right now the bird for a marketing man tends to be a bit tough and indigestible, the data bank to us at any rate looks like an excellent cooker to tenderize it!

MR. S. L. FAIRFIELD,
Real Estate Research Manager,
Steinberg's Limited, Ontario Division.

I can see that the previous speakers have already covered most of the various points I have been planning to discuss. It is probably characteristic that so far in the statistical reporting system, retailing is at the end of the list. Only recently can we find the beginning of more understanding of retailers' problems. After all, the pulse of the national economy is the fluctuation of consumption of goods and services.

Mr. Kingsbury already made a reference to the scarcity of external data useful for internal use - now let me jump in "in medias res". For all practical purposes my first suggestion would be to explore the possibility of producing provincial statistics in such detail as they are produced on a national basis. We are all aware more or less that we live in a consumer oriented economy. Yet the statistical services do not lend themselves to measure consumers' activities to the degree which would be desirable. The movement of goods leaving the factory, or entering Canada, is extremely important from a national point of view. If we are lucky we can even establish Canadian Domestic Disappearance Statistics, but this is very difficult to obtain on a provincial basis.

Mr. Rowebottom referred to the problem of import and export statistics. Mr. Long also made ample reference to the inadequacy of reliable provincial and municipal statistical services.

I have to stress that we must plan many years ahead for our retail facilities. An increasing volume of investment is at stake and we have, in many cases, only national data available to determine provincial, regional or community needs. We are more and more involved in town planning, economic rehabilitation of underdeveloped regions in Ontario, thus we would need, for example, small area population statistics very badly. Boundaries of areas for reporting purposes are continuously changed and the information provided is not necessarily consistent with previously reported data. Therefore, a definite need emerges for standardized data service.

Income statistics are numerous after a census year but often conflicting. Here I am referring to income reported by the head of household, by the entire household, by families, by individuals, by wage-earner families, wages and salaries only or from all sources. Family spending statistics are usually reported too late to provide timely information. There is little or no material available relating to the rate of unit purchases, how they are affected by prices, price elasticity.

I am aware that retail sales statistics are difficult to collect, especially by commodity groups. But spending by types of people, income level, geographic region, etc. could be determined with fewer complications and probably even greater accuracy.

In short, that activities planned by the Data Centre in Ontario should also include the vast possibilities provided by statistical sampling techniques. We heard many references to-day

to the cost of data collection or, for that matter, the cost and difficulty of producing desirable statistical data. I propose, therefore, that we should seriously consider the application of statistical sampling techniques in our Data Centre programme.

MR. B. W. ELWOOD,
Director, Research Division,
Metropolitan Toronto Planning Board.

Ladies and Gentlemen. I would have preferred to have been served to you with the liqueur rather than the hors d'oeuvres. Like some of the previous speakers I find a lot of my good points have been taken. This just shows how uncoordinated we speakers have been this morning. Yet here is a paradox because I do find common themes, a reiteration of common points and I think this augurs well for some future coordination of these various agencies which are finding our present statistics inadequate and think that something could be done about it.

I find that the Oxford dictionary gives a very neat definition of "coordination" which I think would apply to what we are trying to bring about here; it describes coordination as "the harmonious combination of agents or functions towards the production of a result". Now, what is new to bring about the present clamour for coordination, who needs this coordination and how are we going to bring it about? What's new is obviously the modern computer with it's enormous memory. Its range and capacity are far beyond what a single person or department can now feed into it. It is, as it were, backing up into an inter-departmental level. Its scope has created the possibility of various agencies being able to solve mutual or interlocking problems; and the possibility of such solutions becomes a demand for such solutions. Moreover, the scale of costs of installing and operating these

enormous computers is making it necessary to get more than one department into the picture. Now what are the requirements of these various departments? What are they aiming at? What kinds of coordination?

It appears to me that this morning certain feelings are being brought out which I think can be summarized as follows. In order to mould together a great range of statistics from various departments and to apply them to diverse ends, we first have to have comparability of materials. For example, reference was made to the problem of geographical areas. This is one of the problems for planners too for we find that we are having to produce plans or advise a number of agencies who have various interests expressed by different geographical areas. School authorities have their school districts, politicians their wards, the assessment department also talks in terms of wards, the police have their districts, the transportation planners have traffic zones, land use planners use planning districts. Evidently there are many, many more; the Bell Telephone we hear this morning have districts of their own. Thus there is a great need for a system of geographical divisions, some system of coordinates possibly related to a national grid and perhaps based on latitude and longitude. If we had this sort of geographical definition whereby we could assemble statistics for any area, for any agency, for any purpose, we could have convertibility if not direct comparability. I was very impressed to hear from Mr. Rowebottom that D.B.S. has a branch set up just to study this matter of geographical classification. Another

thing that makes life difficult for planners, and it is mainly their own fault, is the lack of common definitions for land use. There are almost as many different classifications of land use as there are planning departments in the country. The variety of classifications and of the colour and coding systems they use make it impossible or very difficult to compare one plan with another. As Dr. Cheng remarked, there is a great amount of work to be done in working out basic definitions and new classifications. The second requirement of co-ordination and co-operation is the need for complementality of the totality of a picture. We sometimes have to stick bits together to make a whole, we have to be able to draw statistics from various departments and put them into a meaningful synthesis and in doing it we should be able to eliminate some of the duplications; this is one of the economies that we can achieve. You will find that many departments are producing the same statistics or aspects of the same statistics. This wants sorting out so that we get a complementary building up of a picture without everybody trying to produce these various bits, rather inadequately in some cases. Then we have to have a suitability of material for particular purposes. It has to be shaped and directed towards our ends. It must be of the right form, quantity and quality. Finally we have a problem of accessibility and retrieval. This has been referred to many times this morning. The problem of being able to feed into a computer or a data bank information which can be retrieved by anybody;

and the understandable shyness of certain agencies in putting in or allow retrieval of material which is confidential - sometimes by legislation, sometimes by the nature of their industry.

Now let me give you one example of a deficiency in present statistics. There is a great need for more information on the distribution of employment and the relationship between residence and work place. If we could also have the distribution of employment by type of industrial activity that would be even better. The following would be just some of the applications of this information. It could tell us the extent and location of work places and the distribution of the daytime population. This has application for planners in choosing the best locations for different types of zoning for daytime uses and public services. It would be of guidance to retail operators and other developers and investors regarding the best locations for development and it is necessary for civil defence organization and planning. A second factor that could be obtained would be the movement of population between home and work. This would be of value in defining the best disposition, extent and relationship of residential areas and employment-generating land uses. The function of this relationship is the journey to work. Knowledge of this function is of value in planning highways and in planning transit. Greater knowledge about the distribution of industrial activities would add to our understanding of economic changes and trends. This in turn would reveal investment trends and opportunities. Now what

information do we have at the present? The census of Canada gives us information on the distribution of employment by industrial classification. Unfortunately, it's by place of residence and this has a very limited use. Further, their classification is the D.B.S. Standard Industrial Classification which classifies the broad industrial types but is not the way in which planners and many other people might look at these industrial activities. For example, a manufacturing firm's offices downtown would be classed as manufacturing, whereas planners would be inclined to say that this was a different sort of land use namely offices; hence in their use of these statistics planners would not be able to draw the conclusions they want from this type of industrial classification. The National Employment Service, I have always found very co-operative in placing their information at the disposal of the planners and they are able to give us employment information by place of work. Unfortunately, they omit large categories of uninsured workers and have incomplete or very limited information on firms with less than ten employees. Again, they use the Standard Industrial Classification. The Dominion Bureau of Statistics produces its General Review of Manufacturing Industries but this is manufacturing only and the smallest areas it gives statistics for are the leading cities. D.B.S. has its monthly survey on employment and payrolls but their survey is conducted only amongst firms with over fifteen employees and again the

smallest areas for which information is given are the leading cities. Our Assessment Department, from whom the Metropolitan Toronto Planning Board will be obtaining inputs for a Data Bank, has information on types of building which gives a broad classification coming nearer to the planner's definition of industrial activity, or rather land use. This classification includes factories and warehouses, offices, stores, housing types, etc. We are also having standard industrial classification coded into this information, in spite of what I have said about industrial classification, and we hope to have land use some time. Again there is a big deficiency here as the Assessment Department is not interested in obtaining statistics on the number of employees so, although they have building types which give us a guide to land use, they can't tell us about the distribution of employment. Thus it seems that although we are about to send a man to the moon, when he comes back we won't know where he works or what at.

Now what will we do about this? Should we ask the census to record where people work as well as where they live? Should we try to persuade the National Employment Service to round out the information and put it onto punch cards, retrievable by small areas? Should we try to twist the arm of D.B.S. to extend its survey coverage and allow retrieval by small areas. Or can we in some other way put this information together? Can we make the separate bits comparable and put them together, with the Assessment Commissioner's assistance? I don't know

the answer. This is what we are here to discuss today; but I am convinced that a "harmonious combination of agents" could achieve a solution. However, it is no longer sufficient to leave these arrangements to a spontaneous reaching out of one department to another. We have reached a point in history, brought about by the giant computers, where this arrangement is old fashioned, too haphazard and too hit-or-miss; it is, in fact, too unco-ordinated. What we really need is, I would suggest, a United Agents Permanent Secretariat. The co-ordination of information that we collect cannot be done within the present structure of separate departments, it needs a new agency. What we see emerging, therefore, is the following structure. There is the computer, awaiting our instructions. Feeding the computer, preparing its material in digestible form from the raw materials are the acolytes of the computer, namely the programmers and the programme directors. Behind them stand the collectors of information, the agencies. Now, our co-ordination function has to come in between the collectors of information and the programmers and programme directors. As Mr. Rowebottom said, the administrative process is part of the statistical process; and here we are dealing with a problem of administration - how to get this set up, how to finance it, how to collect the various chunks of information from various departments and relate and co-ordinate it.

In giving you these four main levels in this structure:

the computer, the programmer, the "united agents" and the collectors of information, I am missing out a very important final step and that is that, beyond the computer, are the uses to which the data will be put. There are two problems that we have to think about increasingly. One is the quality of the basic information. To achieve acceptable quality, we each have to put our own house in order, we have to tidy up our files, we have to redefine our information, we have to make our information comparable so that it is in a form which can be passed to the computer. We all have a big job to do here. Then, finally, I think a lot more will have to be said about the outputs of the computer and how these are to be used; indeed this final step should be planned a long way ahead, otherwise we might find ourselves with mountains of information that we don't know how to apply. The changes taking place are going to alter the whole structure of administration. It isn't merely the department that feeds in the information that is going to get back the information and use it. Wider demands are going to be placed on information; it isn't going to be merely a matter of getting back a little bit of information for a little problem, it is going to be very different in magnitude and complexity. I would, therefore, leave these two final thoughts with you, that two problems are going to face us - first, the sorting out and improvement of the information, starting from the supplier and the collector; and second, how the users are ultimately going to use this information. The

more one thinks about ultimate purpose the more philosophical one becomes and the one's horizon extends out to the sociology and the ultimate purposes not only of one's own department but of the whole of our society.

PROFESSOR J.M. GILLIES,
Dean, Faculty of Administrative Studies,
York University.

There is no question that the Canadian economy at the present time is very prosperous, and it appears as if it will continue to be prosperous. The major problem in the future is going to be inflation not recession and therefore anyone who is concerned about the growth and development of cities can take for granted that, at least in the immediate future, he is going to operate within an environment of prosperity. Within this environment some long range changes are taking place that may affect our development.

One of the things that is happening in Canada is, of course, the great increase in population. The population of the nation is growing at the rate of a thousand persons a day. In fact while I was being introduced two babies were born somewhere in Canada, for there is a baby born every 2 1/2 minutes. The population will continue to increase in absolute numbers during the next few years.

Perhaps more important than the increase in the number of people in the nation, is the change that is taking place in the age structure of the population. There are now far more people under the age of 21 than ever before and there are more people over the age of 65. The net result, of course, is that there are fewer people left to do the work. When you think about this for a second, you realize that the labour force, relatively speaking, is getting smaller. I for one am not worried, chiefly

about automation. In fact, I am worried that automation may not come fast enough because unless people can produce more, it is going to be very difficult to maintain our standard of living in the years ahead. Of course, automation brings other problems of relocation. There is no question that this change in the age structure of the population also has an effect on the way in which our cities are growing and the way in which they are developing.

The apartment boom that most communities have had in the last few years is partially a reflection of the age structure. Young marrieds rent apartments and Canadian girls are getting married at an early age. Similarly, we have more older people. This, too, has had an impact on the way in which our housing is developing, for the older folks are peculiar in their housing needs. They are not highly mobile. Florida is the only state in the United States which has been able to consistently attract older people. In the Del Webb Senior Citizen Project in Phoenix, Arizona, for example 95 per cent of the people that have moved to this senior citizen community lived in California, Arizona, and Colorado before they went into the project. Similar projects are being built outside of Chicago and New York because this is where the old people are. They are not a highly migrant group.

There is not a high degree of mobility among senior citizens, but by far the most important thing about the population, in general, is the fact that by and large, with the exception of the senior citizens, it is highly mobile. The great fact of the latter part of the 20th Century is that we are becoming an

urbanized nation. There have been great movements of population to the cities and this will continue. After all the one thing economists know is that people go from areas of low economic activities to areas of high, and the cities are the places where the opportunities lie. The great improvement in agriculture has made this possible and today 80 per cent of the people in Canada live in communities of 30,000 or over. Two thirds of the people in Canada live in communities of 100,000 or over, and this trend is going to continue. In another decade or two, the whole area from Niagara Falls to Oshawa will be one great urbanized area. This, of course, is going to have a great impact on the way we live. It is going to increase the pressure on urban land and the long run outlook for land prices must be that they will go up. If land prices continue to rise, the type of improvements we can put on the land will have to be different. There has been a great demand for apartment house space and much of this demand has been generated by the change in the age structure of the population, but also much of the demand comes from the fact that many people cannot afford single family homes in the central sections of our communities anymore.

No statistics are less accurate than statistics on apartment vacancies. I have read that the vacancy rate in Toronto is about a half of one per cent which, if true, means that Toronto has one of the lowest vacancy rates in any city in the world. But one must be very careful about vacancy rates for they turn around very rapidly. Only three years ago the vacancy

rate in Southern California was about 4 per cent. This year it is probably about 15 per cent. One of the things that you know with absolute certainty about builders is that they will always over-build their market. With land prices going up the way they are I think you will find a great deal more apartment-living in Canada and certainly a lot more apartment-living in the central sections of our communities.

This doesn't mean, of course, that we won't have suburban developments. The fascinating question is "What are these suburban developments going to look like?" We have heard so much about sprawl of one sort or another, one wonders whether or not we will ever get it under control, particularly if the Metropolitan areas continue to grow at such a rapid rate. I would think that opportunity for improvement in the design of our subdivisions is probably greater now than it has been for a long time. If we can ever get a situation where there is a surplus supply of houses, the developers, when they put new houses on the market are going to have to do something more imaginative as far as design is concerned.

I think the change will probably come more in the design of a subdivision than in the design of a house. Now the house really, while one jokes about it, has improved a great deal. If there is going to be a major improvement, it is going to come in the use of land. It is fascinating that with rare exceptions we really haven't had much improvement in the lay-out and design of the subdivisions in our suburbs. For a century we have built the grid iron plan scheme and one thinks it's a major innovation if a cul de sac is put in, or if the houses are built on streets that curve. In the next generation we should do a great deal more with the design of the subdivision, and the way it is laid out. Probably

the most famous examples of this are Radburn, New Jersey, with its open area, and Reston the new town outside of Washington. Hamilton, the new town outside of San Francisco is attempting to do something about these matters. There is no reason why we cannot build our subdivisions with the houses looking in on a park rather than looking in on the streets that really aren't necessary to move traffic. It is quite possible to design a subdivision to get as many lots serviced at as low a cost per lot on a central open space plan as it is with the old grid iron plan. How much more attractive it is! More important, if we have automation, so that in the mass production industries ten years from now we have a four day week, the man who buys a house is going to want to buy more than just shelter. He is going to want to buy a lot of things with it and the subdivider who offers the common swimming pool or some tennis courts, or something of this sort is going to have a very important competitive edge in the market.

In the central areas changes are also taking place. The retail trade in many regions has fled to the outlying suburbs with their modern shopping centres. Occasionally one reads in the Saturday Evening Post and such journals that the downtown is dead. I certainly don't think this is true. Shopping centres perform a great function, but the downtown areas also have a tremendous function to serve. The fascinating question is why it is that certain areas of cities automatically re-develop themselves while other areas never will. I have always been impressed by the fact that Hollywood, which was a tremendous slum area after World War II, is now a really first class place to live. It paid the developers to come in, tear down the old

slums, and build apartment houses. Three miles away on Bunker Hill which is the central core of Los Angeles there are still slums and nothing is happening to them. In certain circumstances there are conditions that appear to be proper for bringing re-development along without any particular type of government subsidy. In other areas even with all kinds of subsidies, we still have not been able to bring about re-development. What is it that makes certain areas of cities viable and other areas not? But regardless, and this is a problem that has to be solved, there is no question that a community can no longer support itself if it has some of its very best land, the land that ought to yield the highest tax return, developed as slum areas. I am always upset when I read that a community is putting a convention centre or some such land use in a suburban area. All communities ought to be certain that financial activities are kept in the core.

I for one, don't believe we can ever solve the municipal mass transportation problem without eliminating the trip. I have always been impressed by the fact that we have worked for years to get the forty hour week and now add twenty hours onto each end of it for commuting. It certainly ought to be possible to design our communities in such a way that industrial, commercial and residential land uses are interrelated so that people don't have to travel so far. How much better it would be if a man were able to get up in the morning, wander across a park to the place he works, come home for lunch, and come home again in the evening without the long commute. This is simply a matter of better design and better planning. Certainly for schools we ought to be able to design our communities in such a way that a youngster

doesn't have to take a bus to school. I am always impressed when I go into communities where someone says "You know we decided to put aside 50,000 dollars or 100,000 dollars to advertise for new industry." It is usually, not always, but many times just a waste of money. Most of the industries that are being relocated know where the good sites are. The thing that many industrialists are looking for today, compared to the old days when they were terribly concerned with railroad rates and such, is a viable community where the people are going to live, because the highest cost that many manufacturers have to face is the cost of re-training the labour force. What they want is a community where the people are going to be happy to live and to stay. I often tell a community that if you have 100,000 dollars to spend, spend it on schools. The Canadian labour force is a mobile labour force and people are going to move to live in those areas where it is attractive to live. The great challenge to planners and to industrial location experts is to build the sort of community where people are going to be happy in their work.

Another great problem all of us have to face is housing for the low income groups. This has been a great problem for everyone for many years. Public housing as it has been approached in the United States has been a dismal failure.

It is really incredible that in a nation with a gross national product of 55 billion dollars a year we still have people living in inadequate housing. It seems to me that everyone interested in the problems of their community should get involved and work at finding a solution to this truly difficult problem.

You know, you can make a lot of money and you can lose it the day before you die, but if you work to get a better community, a better planned community, a better designed community, a better community for people to live in, it can never be taken away from you, or from your children. So the message that I would leave today with you is that not only do we need a great deal more information about forces that are shaping and changing our cities, but we need a tremendous amount more participation. We need participation on the part of interested citizens if we are going to solve these tremendous problems that are ahead of us. But problems also bring enormous opportunities and I think that the great challenge is whether or not we make big enough plans about the future. Thank you very much.

SUMMARY OF DISCUSSION PERIOD

Dr. A.J. Dakin asked Dr. Cheng whether departments would hold the initiative in collecting data which the Statistical Centre hopes to process, or whether the Statistical Centre would originate this collection of data. Dr. Cheng explained that this would depend on the particular circumstance and therefore, one could not generalize on this matter. It is likely, however, that a combination of methods will be involved in such data collection. Mr. D.W. Stevenson asked the D.B.S. representatives to comment on the relevance of common classification systems to the administrative statistics now being collected by either private or government agencies. Both Mr. Rowebottom and Mr. McKellar discussed the importance of common coding systems in ensuring comparability of statistical data. Professor D.V. Verney stated that he believes that greater concern should be given to international classification, particularly in view of the increasing inter-dependence which is now evolving among nations. He cited several examples to support his argument. Mr. Skof stated that the Standard Industrial Classification Code is restricted to four digits and his organization has found this to be inadequate. Mr. McKellar explained that the SIC code is actually a three digit code, although four digit codes exist for certain manufacturing industries. He also pointed out that the more detailed the Standard Classification the more often revision would be required. D.B.S. however, would be

willing to supply more detailed categories to anyone who wishes them.

Mr. J.K. Mann asked whether anyone desired to comment on the question of developing criteria for evaluating information with particular reference to the problem of obsolescence. Mr. Rowebottom remarked that this was an interesting question for which the answer rests in the relative value of the information. Mr. Ray followed up the question by stating that, basically, the issue is one of determining whether certain information should be stored in the data bank or discarded. Dr. Cheng argued that this can be visualized as an economic problem and, as such, it can be treated in terms of marginal concepts. Thus, information may be stored up to the point where the marginal utility is equal to the marginal storage costs. Mr. Kingsbury also agreed that this matter posed a real problem and one for which no precise answer can be given.

Mr. Baillargeon made reference to problems associated with the administration of statistical information in Quebec and stated that the Quebec Bureau of Statistics has been collaborating closely with D.B.S. on this matter.

Mr. Preston suggested that Dr. Cheng and his organization will have to pay close attention to the points of view of respondents, particularly their attitudes toward the many questionnaires which they will encounter. He stated that information output is only as good as the input. Mr. Preston

also indicated his enthusiasm and offered to fully co-operate with the Ontario Statistical Centre.

Mr. Paterson stated that it appeared to him that the meeting was designed to discuss the matter of co-ordination of statistical data. He said a cost would be involved in improving the collection, collation, classification, etc. of required data. The problem is made more difficult because the statistical requirements of many different groups and agencies, with different interests, are involved, consequently the matter becomes one of ordering priorities. Mr. Rowebottom pointed out that one way to view this matter is from the standpoint of willingness to pay the cost of producing data, but willingness to pay the cost cannot be determined by the producer. Thus, the importance of the user in the decision-making process, as far as priorities are concerned, should not be understated. Professor Rodd expressed the view that the gathering of information cannot be successfully treated in a cost benefit analysis, since one cannot be sure who is going to use the information. He suggested that a continuing master sample of say 2 per cent to 10 per cent of the population could provide current data at a relatively low cost.

Dr. Dakin asked whether or not the Ontario Statistical Centre would service municipalities which cannot afford expensive electronic equipment. Dr. Cheng replied that this is essentially a policy matter, however, his personal feeling is that the effective operation of the information system he outlined assumes the participation of municipalities.

Mr. Macdonald stated that the provincial government is quite aware of the growth and importance of the municipal sector in the whole government scene. He also commented on the relative deficiency of municipal statistics.

Mr. Churchill enquired as to whether the Metro Assessment Department had made much progress in collecting information on rents and selling prices of houses, etc. Mr. Elwood replied in the affirmative and stated that some outputs will be available in 1966.

Participants then proceeded to discuss the proposals drafted by the steering committee. Dr. Dakin suggested that in place of "government and private industry" the term "general public and private organizations" be used. This was considered acceptable. Dr. Dakin also pointed out that four of the seven members proposed for the committee appear to have a predominant interest in the immediate metro area, and he wondered if consideration might not be given to representation from less organized areas of the Province. Mr. Moogk stated that since this was a pilot operation the representation was made strictly on the basis of convenience and was not intended to be exclusive.

Mr. Macdonald argued that Dr. Dakin's point was an important one but the procedural question was how best to go about this matter in a beginning group. Mr. Macdonald said that the scope of co-ordinative activities would no doubt increase if the pioneering group encountered success.

Mr. McCabe suggested that whatever committee was elected, it should take into account other researches such as the nationally sponsored study of standardization of land use coding and classification.

Mrs. Samery declared that membership on the committee should be revised in order to take into account representation of rural areas within Metro.

Mr. Lemon argued that the first two objectives of the committee were identical to two of TARC's objectives. He suggested that TARC be requested to establish a committee with terms of reference generally as outlined in the proposals.

Mr. Lemon's suggestions received the support of Mr. Paterson who stated that the broad representational aspect of the Toronto Area Research Conference made it a suitable vehicle for exploring the topic further. Mr. Paterson concluded that there would therefore be no need for an additional committee of the type proposed. Mr. Elwood admitted that this would be an alternative method of approach but pointed out that the present group extends beyond TARC membership. Mr. Moogk expressed disagreement with the idea of TARC performing the functions set out for the proposed committee. He expressed interest in the appointment of a continuing committee with a "simple statement of objectives" and representation similar to that proposed.

Mr. Lemon added that his suggestions were designed to place the subject within the framework of the Toronto Area Research Conference which could pursue it with the Ontario Statistical Centre in order to define a set of objectives and a method of procedure. Mr. Macdonald replied that, as indicated in his opening

remarks, the Ontario Statistical Centre aims to be as widely useful as possible and intends to collaborate with several groups. He also pointed out that it was his feeling that the Toronto Area Research Conference with its experience and constitutional form was certainly one such group with which these objectives could be successfully accomplished.

Mr. McCabe enquired whether TARC's members were informed of its participation in this project or was the decision made by the executives only. Mr. Moogk explained that a general meeting of the organization had received reports informing them of the developments, but the proposals had not yet been considered.

Mr. Rowebottom declared that it was his view that a contribution would be made if the group, as named or suggested, were brought together to study some of the problems outlined at the conference.

Mr. Macdonald suggested that the meeting be brought to an adjournment by some sort of resolution in accordance with the wishes of the delegates. In summarizing, he stated that two general strands of opinion, covering the same objective, had been put forward. He proposed that a new committee be given the interim assignment of following through on the item dealing with "promotion of co-operation". Such a committee would have as its goal the consideration of problems of common interest and, perhaps, take on the responsibility of reconvening another such meeting at some future date. Mr. Macdonald said that the proposed group could be asked to assume the general objectives set out in point two of the proposals* and could also discuss and study in

*please refer to appendix

further detail the mechanics and machinery of collaboration. He argued that the group should be comprised of membership similar to that proposed under item C with the understanding that the two members from TARC should be representative of the private sector. In addition, there should be a member from a non-metropolitan local government and one from a university. He further proposed that the group undertake its work for a period of perhaps nine months and then reconvene a meeting similar to the one held that day. Mr. Macdonald enquired whether or not his proposals were acceptable to the assembly. No objections were raised. He then called on Mr. Moogk to draw the proceedings to a conclusion.

Closing Remarks - Mr. E.G. Moogk

Ladies and Gentlemen, although we are running short of time it would be inappropriate to wind up our session without making certain remarks about the day. First of all, we have had an attendance of about 75 persons, a broad and representative group of key people who are interested in the subject of co-ordinating statistical data. We appreciate very much your attendance. I think that the response has been quite wonderful.

The programme has turned out at least as well as we hoped it would, and perhaps better. During the morning session, it was notable that the various speakers were well integrated in relation to the subject in hand. It probably happened more by accident than good management, but nevertheless it did happen and Mr. Elwood completed the morning session with a splendid summary, which prepared the way for our panel discussion this afternoon.

We thank the Province of Ontario for a good luncheon and for general administrative arrangements which have been handled extremely well. We were privileged to have an excellent luncheon speaker, Professor Gillies, Dean of the Faculty of Administrative Studies and Vice President of York University. Our thanks go to Mr. Macdonald, Dr. Cheng and members of their staff for inspiring this meeting and providing most of the arrangements. I, on behalf of the Toronto Area Research Conference, express thanks to them and I am sure

you will all wish to be associated with this. I suggest that we give them a hand clap in appreciation. Now the Consumers' Gas Company invites you to be their guests at a short reception. Thank you very much.

APPENDIX

CONFERENCE ON "THE CO-ORDINATION OF STATISTICAL ACTIVITIES"

Place: Westbury Hotel
Date: February 22, 1966
Chairman: Mr. H. I. Macdonald, Chief Economist, Ontario Government

AGENDA ITEM

Morning Session

Time

- 9:00 a.m. Introductory Remarks by Chairman
- 9:20 a.m. Address by Mr. E. G. Moogk, Chairman of Toronto Area
Research Conference
- 9:30 a.m. Speech by Dr. Kenneth Cheng, Director, Ontario
Statistical Centre
- 9:50 a.m. Speech by Mr. L. E. Rowebottom, Assistant Dominion
Statistician, Ottawa
- 10:10 a.m. Coffee Break
- 10:25 a.m. Speeches by Representatives:
- | | | |
|--------------------------|---|---------------------|
| Manufacturing Industries | - | Mr. D. E. Kingsbury |
| Utilities | - | Mr. H. W. McCallum |
| Finance | - | Mr. R. Long |
| Advertising & Marketing | - | Mr. K. F. Bull |
| Wholesaling & Retailing | - | Mr. S. L. Fairfield |
- 11:15 a.m. Speech by Mr. B.W.H. Elwood, Director of Research,
Metro Planning Board
- 11:35 a.m. Pre-Luncheon Break
- 11:50 a.m. Lunch
- 12:40 p.m. Introduction of Guest Speaker by Mr. S.W. Clarkson,
Deputy Minister, Department of Economics and Development
- Guest Speaker: - Professor James M. Gillies,
Dean of the Faculty of
Administrative Studies,
York University
- 1:10 p.m. Post Luncheon Break

CONFERENCE ON "THE CO-ORDINATION OF STATISTICAL ACTIVITIES"
(Continued)

Afternoon Session

Time

1:30 p.m.	Panel Discussion and Question Period (panel to be comprised of all speakers)
2:30 p.m.	Coffee Break
3:00 p.m.	Discussion of Recommendations
4:30 p.m.	Adjournment of Conference
4:30 -	
5:00 p.m.	Cocktail Reception (courtesy of the Consumers' Gas Co. Ltd.)

Sponsorship

The Toronto Area Research Conference

and

The Department of Economics and Development

PROPOSALS FOR CONSIDERATION

Conference on "The Co-Ordination of Statistical Activities"

It is proposed that a committee for statistical co-ordination be formed.

A. Name of Committee: Council for Statistical Co-Ordination

B. Objectives of Committee

1. To co-ordinate the various statistical activities in the Metropolitan Toronto Area.
2. To promote co-operation between government and private industry and between different levels of government in the collection of statistical information.
3. To take the initiative in formulating statistical standards such as coding and classification, for general use by all statistical offices in the Metropolitan Toronto Area and to work for its adoption by similar organizations in the province.
4. To review the work programmes of the statistical offices of the government and private industry to eliminate possible duplication in the collection and processing of statistics.
5. To strive for the improvement of facilities for storing and retrieving information from various sources by application of electronic computers.
6. To take the lead for the formation of similar committees in other urban centres of the Province.

C. Membership in Committee:

1. Chief Economist, Ontario Government - chairman
2. Ontario Statistical Centre - 1 member
3. Toronto Area Research Conference - 2 members
4. Dominion Bureau of Statistics - 1 member
5. Metropolitan Government of Toronto - 2 members
 - a. Metropolitan Planning Board - 1 member
 - b. Metropolitan Assessment Department - 1 member

